

CATALOG

NOTRE DAME UNIVERSITY

07-08

n2u FAAD

Faculty of Architecture
Art and Design

n2u FBAE

Faculty of Business Administration
and Economics

n2u FE

Faculty of Engineering

n2u FH

Faculty of Humanities

n2u FNAS

Faculty of Natural and
Applied Sciences

n2u FN

Faculty of Nursing

n2u FPSPAD

Faculty of Political Science
Public Administration and Diplomacy



NDU Catalog ©–2007 - 2008

Editorial : Office of the Registrar
Word Processing : Mr. Nazih Khalil
Printing & Cover Design : Meouchy & Zakaria Printing Press

**CATALOG
2007-2008**

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Notre Dame University

Catalog 2007 - 2008

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MESSAGE FROM THE PRESIDENT

A Call for Commitment

Notre Dame University, Louaize, has settled on top of this hill, between the mountains of Kesruwan and Metn overlooking the historic river banks down to the south, Beirut the Capital facing its campus to the west, mount Sannin to the East, and the historic Monastery of Our Lady of Louaize to the north. While inspiring lessons of the rich history and the beautiful nature, students and faculty members are invited to experience latest knowledge and examine the world in its modern advancement and latest complicated global village.

This year we are not going to talk about the past, nor dwell about the future, but rather look together into the main titles of a plan of action, set by the University upper Administration for this academic year 2007-2008, and try to commit ourselves to this scope of accomplishment. We do not pretend that we are going to do everything mentioned in such an ambitious plan. We have learned on this campus to be humble, realistic, pragmatic and reasonable. However we have learned also how to dream, and how to carry a vision and try to present it to our students while making out of them the leaders of their communities engaged with the future potential and prospective.

The curriculum development endeavor is going to embark on incorporating new GER courses, designing additional graduate programs, introducing compulsory thesis component, inviting visiting scholars, continuing to modernize library tools and technologies, and implementing the inter-library loan policy.

The development of faculty members includes hiring special skills professionals to add to the diversity of exposure and experience in professional degree programs; recruiting more Ph. D. and terminal degree holders in different departments; encouraging faculty members to conduct collaborative research with local, regional and international firms; exchanging faculty members with international universities by way of fellowships and scholarships.

The research development venture comprises: the establishment of a specialized research center/unit in each and every Faculty; the engagement of faculty members from other local and international universities in joint research projects; the creation of an office for exchange and partnership programs; the offering of research assistantship to graduate and well-trained undergraduate students; activate the role of the Center for Applied Research in Education within institutional research activities.

The student campus life scheme is encouraged through supporting clubs related to degree programs and cultural university activities; recruiting international students with the top-of-the-line brand new dorms on campus; and developing student scholarships and financial assistance; and developing the recognition of deserving students on the Dean's list.

Again we do not pretend to do all the above as much as we try to inspire from such a plan of action and commit ourselves to carry on with the advancement of NDU in building the future of our children and our country.

Fr. Walid Moussa, *S.T.D.*
President

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Miss Aline Siranossian, *Laboratory Assistant*

Mr. Maroun Eid, *Laboratory Technician*

Mr. Elie Lahoud, *Laboratory Technician*

Faculty of Humanities

Dr. Carol Kfouri, *Dean*

Mrs. Wassil Chemaly, *Administrative Assistant*

Department of English, Translation and Education

Dr. Mary-Angela Willis, *Chairperson*

Miss Vera Jabbour, *Secretary*

Department of Mass Communication

Dr. Joseph Ajami, *Chairperson*

Miss Alice Eid, *Secretary*

Department of Social and Behavioral Sciences

Dr. Mansour Eid, *Chairperson*

Miss Christine Noufaily, *Secretary*

Freshman Arts Program

Dr. Doumit Salameh, *Academic Advisor*

Audio/Visual Facilities

Mr. Sam Lahoud, *Supervisor*

Mr. Antoine Azar, *Video Associate and Technical Consultant*

Miss Zoya Awky, *Recording Engineer*

Mr. Anthony Gunstone, *Studio/Audio Associate*

Mrs. Rania Saade Zeidan, *Administrative Assistant, Audio-Visual Facilities*

Mr. Nicolas Khabbaz, *Project Coordinator*

Mr. Naoum Abi Adam, *Computer Associate*

Mr. Samer El-Achi, *Studio Assistant*

Miss Maria Zeinati, *Studio Assistant*

Mr. Abdo Bejjani, *Audio-Visual University Services*

Mr. Milo Ghanem, *Audio-Visual University Services*

Mr. Charbel Tarabay, *Events Assistant*

Faculty of Natural and Applied Sciences

Dr. Youssef K. El-Hage, *Dean*

Miss Danielle Abboud, *Administrative Assistant*

Department of Computer Science

Dr. Hikmat Farhat, *Chairperson*

Mrs. Rita Sawaya, *Secretary*

Department of Mathematics and Statistics

Dr. Elias Saleeby, *Chairperson*

Mrs. Nelly Nakad, *Secretary*

Department of Sciences

Dr. Antoine Farhat, *Chairperson*

Actuarial Science & Insurance Program

Mrs. Claudia Freiji Bou Nassif, *Academic Advisor*

Freshman Science Program

Dr. Doris Jaalouk, *Academic Advisor*

Science Laboratories

Mrs. Rita El-Hage El-Amm, *Academic Assistant*

Mrs. Nada Maalouf, *Academic Assistant*

Miss Catherine Zoghbi, *Academic Assistant*

Mrs. Elizabeth Saliba Tabet, *Laboratory Assistant*

Mrs. Amal Hajj, *Keyboarding Assistant*

Faculty of Nursing

Sister Beniot Abou-Mhaya, Ph.D., *Acting Dean*

Miss Rita Orfali, *Administrative Assistant*

Faculty of Political Science, Public Administration and Diplomacy

Dr. Chahine Ghais, *Dean*

Mrs. Nayla Basbous, *Administrative Assistant*

NDU - North Lebanon Campus***Office of the Director***

Fr. Jean Abou Chrouch, *Director*

Fr. Mounir Fakhry, *University Chaplain*

Fr. Dominique Al Alam, *Assistant University Chaplain*

Dr. George M. Eid, *Academic Advisor to the President for Branches*

Mr. Edgard Merheb Harb, *Assistant Director, Public Relations*

Ms. Rania Accary, *Administrative Assistant*

Mrs. Nancy Rizk Diab, *Administrative Assistant*

Architecture, Art & Design

Mrs. Dina Nashar Baroud, *Coordinator*

Business Administration & Economics

Dr. Dorine Matar Haddad, *Coordinator*

Engineering

Dr. Semaan Gerges, *Coordinator*

Mr. Walid Al Zakhem, *Engineering Laboratory Assistant*

Humanities

Mr. Michael Hajj, *Coordinator*

Natural & Applied Sciences

Dr. Marie Tannous, *Coordinator (Biology and Nutrition)*

Dr. Omar Rifi, *Coordinator, Computer Science*

Ms. Rana Naynou, *Science Laboratory Assistant*

Office of University Services

Mr. Elias Rizk, *Assistant Director, University Services*

Office of Finance

Mr. Bechara Bechara, *Accountant, Business Office*

Office of the Registrar

Mr. Jean Malkoun, *Registrar's Officer*

Office of Admissions

Mr. George Gharzouzi, *Orientation Program*

Mr. Raymond Houry, *Admissions Officer*

Student Affairs Office

Mr. Abdallah Nicolas, *SAO Officer*

The Library

Ms. Carina Hawat, *Supervisor*

Mrs. Suzanne Doumit Saad, *Circulation Assistant*

Computer Center

Mr. Khalil Serhan, *Head*

Mr. Naim Bitar, *User Support Specialist*

General Services

Ms. Lisette Fayjaloun, *Information Desk*

Mr. Chalita Harb, *Driver*

Mrs. Jacqueline Fayjaloun, *Services Worker, Cafeteria*

Mr. Miled Daou, *Driver*
Ms. Therese Assaf, *Services worker, Cafeteria*
Mr. Youssef Bou Ferraah, *Services Worker, Cafeteria*

NDU - Shouf Campus

Office of the Director

Fr. Boutros Bou Nassif, *Director*
Fr. Jean-Paul Bassil, *University Chaplain*
Dr. George M. Eid, *Academic Advisor to the President for Branches*
Mrs. Nancy Khoury Jurdy, *Administrative Assistant*

Architecture, Art and Design

Mr. John Kortbawi, *Coordinator*
Ms. Rania Abdelbaki, *Administrative Assistant*
Mr. Charbel Akl, *Technical and Academic Assistant*

Business Administration and Economics

Dr. Hassaan Saadeh, *Chairperson*
Ms. Rania Abdelbaki, *Administrative Assistant*

Engineering

Dr. Charbel Zgheib, *Chairperson*
Mrs. Siham Antoun Chalhoub, *Secretary*
Mr. Joseph Eid, *CCE Lab Assistant*

Humanities

Mr. Vatche Donerian, *Coordinator*
Ms. Rania Abdelbaki, *Administrative Assistant*

Natural and Applied Sciences

Dr. Fouad Chedid, *Chairperson*
Mrs. Siham Antoun Chalhoub, *Secretary*
Mrs. Rêve Berberi Richa, *Biology and Chemistry Lab Assistant*

Office of the Registrar

Mr. Fadi Khoury, *Assistant Registrar*
Mrs. Marina Bou Karroum Beainy, *Secretary*

Office of Admissions

Dr. Hisham Bou Nassif, *Associate Director of Admissions*
Mrs. Marina Bou Karroum Beainy, *Secretary*

Student Affairs Office

Br. Abdo Sleiman, *Assistant Director of SAO*
Ms. Denise Nassif, *SAO Officer*

Business Office

Mr. Elie Bou Abdo, *Accountant*

Library

Ms. Claudine Chamoun, *Library Supervisor*
Ms. Isabelle Bittar-Ghanem, *Library Assistant*

Computer Center

Mr. Jean Hedary, *Technical Support Specialist*
Mr. Fayad Khoury, *Technical Support Specialist*

Office of Public Relations

Mr. Emile Khoury, *Assistant Director of Public Relations*

Security Services

Mr. Saïd Bou Nassif, *Security Supervisor*
Mr. Hassan Abi Hanna, *Security Officer*
Mr. Fadi Antoun, *Security*
Mr. Abdo Semaan, *Security*

Mr. George Nader, *Security*

Mr. George Habib, *Security*

Cafeteria Services

Mrs. Jihane Mouawad, *Cashier*

Mrs. Antoinette Jraidy, *Worker*

Mrs. Fadia Keyrouz Madi, *Worker*

Ms. Daed Bou Nassif, *Worker*

Ms. Rita Nammour, *Worker*

General Services Office

Mr. Zahi Jadallah, *Assistant to the Director of Administration for General Services*

Mr. Toni Bou Abdo, *Maintenance Officer*

Mr. Refaat Nasr, *General Services*

Ms. Jeanette Younes, *Secretary*

Mr. Charbel Saadeh, *Driver*

Mr. Abdo Mghames, *Gardener*

LIST OF FULL-TIME FACULTY MEMBERS 2007 - 2008

NDU – MAIN CAMPUS

Professors

¹*Assaf, Walid*, Ph.D., 1965, Iowa State University, USA

²*Eid, Assad*, Doctorate, 1986, *Applied Linguistics and TEFL*, Université Saint-Joseph, Lebanon

²*Eid, George M.*, Ph.D., 1988, *Mathematics*, Polytechnic University, New York, USA

Hobeika, Louis, Ph.D., 1980, *Economics*, University of Pennsylvania, USA

Kesrwni, Dr. Prof. Fr. Elias, Diplôme de Docteur, 1989, *Musicologie*, Sorbonne Paris IV, France

¹⁻²*Khoury, Shahwan*, Ph.D., 1965, *Electrical Engineering (Applied Space Science)*, Carnegie Institute of Technology, CMU, USA

²*Nehme, Michel*, Ph.D., 1983, *Political Science*, Rutgers University, New Jersey, USA

²*Oueijan, Naji*, Ph.D., 1985, *English Literature*, Baylor University, USA

²*Rihani, Ameen A.*, Ph.D., 1996, *Bilingual Literature*, Lebanese University, Lebanon

²*Sarru', Boulos*, Ph.D., 1979, *English and American Studies*, Indiana University, USA

¹⁻²*Tarabay, Ajaj*, Ph.D., 1978, *Mathematics*, University of Utah, USA

Yachoui, Elie, Ph.D., 1982, *Economics*, Dauphine, France

Associate Professors

Abou-Chedid, Kamal, Ph.D., 1997, *Education*, Manchester University, UK

Abou-Mhaya, Sister Benoit, Ph.D., 1983, *Psychiatric Nursing-Counseling Psychology*, Boston College, Massachusetts, USA

Ajami, Joseph, Ph.D., 1987, *Mass Communication*, Ohio University-Athens, USA

Alam, Edward, Ph.D., 1996, *Philosophy*, University of Utah, USA

Eid, Mansour, Doctorate, 1985, *Arabic Language and Literature*, Université Saint-Joseph, Lebanon

²*El-Hage, Youssef Kamal*, Ph.D., 1990, *Physics*, Technische Universität München, Germany; M.A., 1985, *Philosophy*, Lebanese University, Lebanon

El-Hayek, Michel, Docteur Européen, 1997, *Sciences Appliquées*, Faculté Polytechnique de Mons, Belgium

Elmurr, Sami, Ph.D., 1986, Mississippi State University, USA

Fakih, Khalid, Ph.D., 1992, *Journalism*, University of Missouri, USA

Georges, Semaan, Ph.D., 2001, Ecole de Technologie Supérieure, Canada

Ghais, Chahine, Ph.D., 1998, *Political Science*, University of Missouri-St. Louis, USA

Haddad, Robert, Master of Fine Arts, 1980, University of Pennsylvania, USA

Hadjetian, Hratch, Ph.D., 1972, *Economics and Labor-Management Relations*, University of Delhi, India

Hamad, Mustapha, Ph.D., 1995, University of South Florida, USA

Hamadeh, Mhamad, Ph.D., 1998, *Economics*, Syracuse University, USA

Harb, Jacques, Ph.D., 1996, Northeastern University, USA

Jabr, Rabih, Ph.D., 2000, Imperial College, University of London, UK

Jahshan, Paul, Ph.D., 2000, *American Studies*, Nottingham University-UK

Karam, Antoine, Ph.D., 1974, *Economics*, Temple University, USA

Keirouz Malhab, Ph.D., 1991, *Mathematics*, Purdue University, USA

Kfoury, Carol, Doctorate 1^{ère} Catégorie, 1997, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

¹ Professor Emeritus

² Tenure appointment

Khair, Marie, Doctorate, 1996, *Computer Science*, Aristotle University of Thessaloniki, Greece
Khalaf-Keirouz, Leila, Ph.D., 1995, *Environmental Geology*, Westfälische Wilhelms-Universität, Germany
Labaki, George, Doctorate, 1984, *Law*, Université de Paris-I, Pantheon, Sorbonne, France.
Mehanna, Rock-Antoine, Ph.D., 2000, *Business Policy*, Southern University, Baton Rouge, Louisiana, USA
Naimy, Viviane, Ph.D., 2001, *Economics and Finance*, University de Paris XI, France
Nassar, Elias, Ph.D., 1997, The Ohio State University, USA
Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon
Salameh, Doumit, Ph.D., 1988, *Philosophy*, St. Louis University, USA
Salem, Naim, Ph.D., 1992, *International Studies*, University of South Carolina, USA
Saliba, Holem, Ph.D., 1997, *Mathematics*, Moscow State University, Russia
Younes, Farid, Ph.D., 1997, *Aménagement*, Université de Montréal, Québec, Canada

Assistant Professors

Akhras, Caroline, Ph.D., 2007, *Doctor of Education*, University of Leicester, UK
Asmar, Ghazi, Ph.D., 1998, *Mechanical and Aerospace Engineering*, University of Missouri, USA
¹**Bahous, Jocelyne**, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*,
Chakar, Elie, Docteur, 1994, *Sciences et techniques du bâtiment*, Ecole Nationale des Ponts et Chaussées, France
Darouny, Kamal, M.A., 1986, *Marketing and Advertising*, Sussex College of Technology, UK
Dib, Robert, Doctorate, 1998, *Biochemistry*, Université de Nantes, France
Donerian, Vatche, M.A., 1987, *Theater and TV Directing*, Yerevan State Institute of Dramatic and Fine Arts, Armenia
Doumit Jacqueline, Doctorate, 1996, *Biomedical Engineering*, Université de Saint-Etienne, France
El-Doaihi, Jamil, Ph.D., 1998, *Arabic Literature*, Sydney University, Australia
El-Khalidi, Khaldoun, Doctorate, 1996, *Computer Science*, Université de Franche-Comté, France
El Khoury, Akram, Ph.D., 2006, *Canon Law*, Pontificia Universitas Lateranensis-Rome, Italy
Fahed, Ziad, Ph.D., 2001, *Théologie Canonique*, Université Catholique de Lyon, France
Farhat, Antoine, Ph.D., 1999, *Nutrition*, McGill University, Canada
Farhat, Hikmat, Ph.D., 1998, *Chemical Physics*, McGill University, Canada
Francis, Francis, Ph.D., 2003, University of New South Wales, Australia
Ghalayini, Bassem, Ph.D., 1995, *Applied Mathematics*, University of California-Los Angeles, USA
Hage, Tanos G., Ph.D., 1995, *Plant Biochemistry and Molecular Biology*, Pennsylvania State University, USA
Hajjar, Roger, Ph.D., 1997, *Physics and Astronomy*, Université de Montréal, Canada
Hamadi, Hassan, Ph.D., 2005, *Finance*, University of Surrey, UK
Harb, Atef, Ph.D., 1996, *Economics-Operations Research*, Ecole Polytechnique de Montreal, Canada
Haroun, Michelyne, Doctorate, 2001, *Chemistry*, Université de Paris V, France
Hasham, Elham S., Ph.D. 2004, *Educational Leadership, Management and Administration*, Leicester University, United Kingdom.

¹ Leave of absence for academic year 2007-2008

Hassoun, George, Ph.D., 1996, University of Adelaide, Australia.

Jaalouk, Doris, Ph.D., 1997, *Cell Biology*, Université de Sherbrooke, Canada

Jajou, Amer F., Ph.D., 1987, *Operations Research*, Univerzita Karlova, Czechoslovakia

Kabrita-Bou Serhal, Colette, Ph.D., 1998, *Circadian Biology*, Northeastern University, Boston, USA

Karam, Clovis, Doctorate, 1984, *Scholastic Philosophy*, Université Catholique de Lyon, France

Kassem, Abdallah, Ph.D., 2005, Ecole Polytechnique de Montreal, Canada

Khalil, Antoine, M.B.A., 1981, *Finance*, Pace University, USA

Khoueiri, Roy, Ph. D. 1989, *Economics*, Université Paris 13, Paris Nord, France

Maalouf, Hoda, Ph.D., 1998, *Communication Engineering*, Imperial College, University of London, England

Maalouf, Ramez, Ph.D., 1994, *Mathematics*, Imperial College, University of London, England

Malek, Amal, Doctorate 1^{ère} Catégorie, 2000, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

¹**Matar, Suhail**, C.A.P.E.S., 1969, *Arabic Language and Literature*, Lebanese University, Lebanon

Mendalek, Nassar, Ph.D., 2003, Ecole de Technologie Supérieure, Canada

Missakian, Mario, Ph.D., 2003, *Information Systems*, California Coast University, USA

Nasser, Ramzi, Ph.D., 1993, *Mathematics and Science Education*, University of Massachusetts at Lowell, USA

²**Nikro, Norman**, Ph.D., 1998, *Cultural Studies*, University of New South Wales, Australia

Noun-Karam, Ghada, Doctorate, 1998, *Immunology*, Université de Paris XI-Orsay, France

Rached Ziad, Ph.D., 2002, *Mathematics*, Queen's University, Canada

Saber, Rashid, Ph.D., 1998, *Marketing and Management*, California Coast University, USA

Sabra, Bassem, Ph.D., 2000, *Physics*, Ohio University, USA

Saleeby, Elias, Ph.D., 1994, *Chemical Engineering*; Ph.D. 1998, *Mathematics*, University of Arkansas, USA

²**Samra, Sami**, Doctorate 1^{ère} Catégorie, 1999, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Sensenig-Dabbous, Eugene, Doktor Der Philosophie, 1985, *Political Science and German Literature*, Paris-Lodron-Universität, Salzburg, Austria

Tratrat, Christophe, Ph.D., 1999, *Chemistry*, Université de Paris V, France

Université du Saint-Esprit Kaslik, Lebanon

Willis, Mary-Angela, Ph.D., 2001, *Francophone Literature*, University of Alabama, USA

Yaacoub, Youssef, Ph.D., 1990, *Education*, Loyola University of Chicago, USA

Yazigy, Amal, Ph.D., 1992, *Applied Linguistics*, Leicester University, UK

Zgheib, Youssef, Ph.D. 2002, *International Hospitality Management*, University of Strathclyde, Scotland, UK

¹ Tenure appointment

² Leave of absence for academic year 2007-2008

Visiting Faculty Member

Akl, Said, Poet, and Philosopher

Senior Lecturers

Abou-Jawdeh, Simon, C.E.P., *Psychotherapy*, Vienna, 2002; D.E.S., 1992, *Clinical Psychology*, Lebanese University, Lebanon

Barakat, Edgard, M.B.A., 1981, *Marketing*, University of Dayton, USA

Baroud, Fawzi, M.S., 1985, *Systems Management*, Florida Institute of Technology, USA

Chidiac, May, D.E.S., 1996, *Journalism*, Lebanese University, Université Pantheon, Assas, Paris II, France

Choueiri, Linda Selwood, Master of Science in Supervision & Administration in the Visual Arts, 2000, Parsons School of Design / Bank Street College, USA

El Asmar, Jean-Pierre, Laurea Di Dottore in Architettura, 1991, Università' Degli Studi Di Firenze, Italy

El-Hage, Gabriel, M.Urb., 1992, *Urbanisme*, Université de Montréal, Québec, Canada

Frayha, Norma, M.B.A., 1982, *Accounting*, American University of Beirut, Lebanon

Gabriel, Nicolas, Diplôme D'Etudes Supérieure Spécialisé en Urbanisme, 2000, Université Libanaise, Liban

Hawi, Nazir, M.S., 1991, *Business Management*, Lebanese American University, Lebanon

Hovivian, Hrair, M.S., 1984, *Finance and Economics*, Beirut University College, Lebanon

Melki, Habib, Master of Architecture, 1985, Ball State University, USA

Saadeh, Ban, M.S., 1978, *Mathematics*, American University of Beirut, Lebanon

Shaffu, Raja, M.B.A., 1970, *Finance*, American University of Beirut, Lebanon

Wehbe, Boulos (Marwan), M.A., 1981, *Middle Eastern Studies*, American University of Beirut, Lebanon

Zaccour, Danielle, Diplôme d'Etudes Supérieures en Arts Plastiques, 1991, Académie Libanaise des Beaux-Arts, Liban

Zakhour, Kamal, M.B.A., 1982, *Marketing*, University of Pittsburgh, USA

Lecturers

Akkari, Juliet, M.A., 1971, *TEFL*, American University of Beirut, Lebanon

Assaf Carole, M.B.A., 1995, *Tourism and Marketing*, Notre Dame University - Louaize, Lebanon

Assaker, Guy, M.B.A., 2003, *Hospitality Management*, IMHI Cornell University/ Essec, France. M.Sc. (D.E.S.S.), 2004, *Tourism*, Université Paris 1, Sorbone

Bechara, André, Master of Arts in Design, 2007, Notre Dame University – Louaize, Lebanon. Bachelor of Fine Arts, 1991, Parsons School of Design, USA

Beyrouthy, Ghassan, M.B.A., 1999, *Hospitality Management and Tourism*, Notre Dame University - Louaize, Lebanon

Chibani, Wissam, M.A., 2001, *TESOL*, Oklahoma City University, Oklahoma, USA

Daghfal, Graziella, Master of Arts in Design, 2002, Middlesex University, UK

Freiji-Bou Nassif, Claudia, M.S., 1991, *Applied Statistics*, Ohio State University, USA; ; M.S., 1998, *Financial Economics*, University of London

Ghossoub El Aswad, Zeina, M.S., 1997, *Nutrition*, American University of Beirut, Lebanon

Hajj, Michael, M.A., 1997, *English Literature*, NDU, Lebanon

Hajjar-Muçà, Theresa, M.P.H., 1994, *Biostatistics*, American University of Beirut, Lebanon

Khoury, Mary, M.A., 1995, *English Language and Literature*, Lebanese University, Lebanon

Kortbawi, John, Certificate in Advanced Typographic Design, 1977, London College of Printing, UK

Matta, Nadim, Master of Arts, 1999, *Typographic Studies*, London Institute/London College of Printing, UK

Menassa, Joyce, M.S., 1984, *Marketing*, Beirut University College, Lebanon

Mikhael, Diane, Master of Arts in Design, 2000, Middlesex University, UK

Nakhlé, Vivianne, M.S., 1993, *Business Administration*, Strayer College, Washington D.C.

Samrani, Diana, M.A., 1990, *Education*, Andrews University of Michigan, USA

Instructors

Bassil, Janet, M.B.A., 1996, *International Affairs*, NDU, Lebanon

Karam, Mirna, M.A., 2005, *Applied Linguistics*, NDU, Lebanon

Nasr, Noel, Master of Arts in Photography, 2006, University of Kent, UK

Sawma, Victor, M.S., 2003, *Computer Science*, University of Ottawa, Canada

NDU-NORTH LEBANON CAMPUS (NLC)

Assistant Professors

Amiouni, Wadiaa, Ph.D., 2003, *Sociology*, Lebanese University, Lebanon; Ph.D., 2003, *Literature & Philosophy*, University of South Africa in Pretoria, South Africa.

El Moucary Chady, Ph. D., 2000, Lab De Génie Electrique de Paris (LGEP), France

Haddad, Dorine Matar, Ph.D., 2006, *Management*, University of Leicester, UK

Rifi Omar, Doctorate, 2000, *Computer Science*, Université Paul Sabatier, France

Tannous, Marie, Ph.D., 1998, *Clinical Chemistry*, University of Windsor, Canada

Senior Lecturer

Karam, Salim, M.B.A., 1983, University of Detroit, USA

Lecturers

Gharzouzi, George, M.B.A., 1984, University of Tulsa, USA

Hajj, Micheal, M.A., 1997, *English Literature*, NDU, Lebanon

Tannous, Heba, Master of Commerce (Information Systems), 1997, the University of Queensland, Australia

Instructors

Baroud, Dina Nashar, M.A., 2007, NDU, Lebanon

Yaacoub Kheir, Hala, M.B.A., NDU, Lebanon

SHOUF CAMPUS

Professor

Chedid, Fouad, Ph.D., 1990, *Computer Science*, Illinois Institute of Technology, USA

Assistant Professors

Abourida, Maurice, Ph.D., 2001, *Organic, Organometallic and Inorganic Chemistry*, UCBL1-CPE, Lyon, France

Bou Nassif, Hisham, Ph.D., 2006, *Public Law*, Université Saint Esprit Kaslik, Lebanon

El Rabih, Abir, Ph.D., 2004, *Pure Mathematics*, Louis Pasteur University, Strasbourg, France

Fayad, Amer, Ph.D., 2003, *Plant Pathology, Physiology, and Weed Science*, Virginia Polytechnic Institute and State University, USA

Haddad, Nabil, Ph.D., 1998, *Parasitology*, Champagne-Ardenne University, France

Saadah, Hassaan, Ph.D., 1999, *Finance*, University of Southern California, Los Angeles, USA

Zgheib, Charbel, Ph.D., 2005, *Physics of Condensed Matter*, University of Montpellier 2, France

Lecturers

Ghaleb, George, M.B.A., 2002, *Management*, NDU, Lebanon

Jabbour, Khayrazad, M.S., 2001, *Computer Engineering*, North Carolina State University, USA

Instructors

Karam, Mirna, M.A., 2005, *Applied Linguistics*, NDU, Lebanon

Kassamany, Talie, M.B.A., 2002, *Finance*, American University of Beirut, Lebanon

Maroun, Bachir, M.S., 2001, *Computer Science*, NDU, Lebanon

ACADEMIC CALENDAR 2007-2008

FALL SEMESTER 2007

| | | | |
|----------------|---------|----------------------|---|
| Sep. 17 -25 | M-Th | | Orientation Sessions for New Students - Attendance Obligatory |
| Sep. 24-26 | M-W | 8:00a.m -2:00p.m. | Registration Period |
| Sep. 27 | Th | 7:30a.m. | Classes begin |
| Oct. 1 | M | 8:00-12:30/1:30-4:00 | Drop and Add (Classes are in session) |
| Oct. 3 | W | 8:00-12:30/1:30-4:00 | Late Registration (Classes are in session) |
| Oct. 5 | F | 3:00p.m. | Opening ceremony for the academic year 2007 - 2008 |
| * Oct.13-14 | Sat-Sun | | Al-Fitr: Holiday |
| Nov. 21 | W | 4:00p.m. | Deadline for Spring and Summer 2007 Incomplete Grades |
| Nov. 22 | Th | | Independence Day: Holiday |
| Dec. 3-14 | M-F | 8:00a.m.-4:00p.m. | Advising Period for Spring 2008 |
| Dec. 14-15 | F-Sat | | Entrance Examinations for Spring Semester 2008 |
| * Dec. 20-21 | Th-F | | Al-Adha: Holiday |
| Dec. 21 | F | | Christmas vacation begins |
| Jan. 2 | W | 7:30 a.m. | Christmas vacation ends; classes resume |
| Jan. 2-25 | | | Application for Work Study Grant & Sibling Grant |
| Jan. 6 | Sun | | Epiphany and Armenian Christmas: Holiday |
| *Jan. 10 | Th | | Moslem New Year: Holiday |
| Jan. 17 | Th | | Saint Anthony's Day: Holiday |
| Jan. 18 | F | 4:00p.m. | Deadline for Officially Withdrawing from a Course |
| Jan. 19 | Sat. | | Ashoura: Holiday |
| Jan. 23 | W | | Wednesday classes do not meet: Thursday classes meet |
| Jan. 25 | F | | End of Classes |
| Jan. 28-Feb. 6 | M-W | 7:45a.m.-9:00p.m. | Final Examinations Period |
| Jan. 31 | Th | | Reading Day |
| Feb. 9 | Sat | | St. Maroun's Day: Holiday |

SPRING SEMESTER 2008

| | | | |
|-----------------|-------|--------------------------|---|
| Feb. 7-8 | Th-F | | Orientation Sessions for New Students - Attendance Obligatory |
| Feb. 12-14 | T-Th | 8:00-12:30/ 1:30-4:00 | Registration Period |
| Feb. 15 | F | 7:30a.m. | Classes begin |
| Feb. 19 | T | 8:00-12:30/ 1:30-4:00 | Drop and Add (Classes are in session) |
| Feb. 21 | Th | 8:00-12:30/ 1:30-4:00 | Late Registration (Classes are in session) |
| March 19 | W | 8:00p.m. | Easter vacation begins (Western) |
| *March 20 | Th | | Prophet's Birthday: Holiday |
| March 25 | T | 7:30a.m. | Classes resume |
| Apr. 15 | T | 4:00p.m. | Deadline for Fall Semester 2007 Incomplete Grades |
| Apr.23 | W | 8:00 p.m. | Easter vacation begins (Eastern) |
| Apr. 29 | T | 7:30 a.m. | Classes resume |
| Apr. 29-May 13 | T-T | | Advising Period for Summer and Fall 2008 |
| Apr. 29-June 11 | | | Application for Work Study Grant & Sibling Grant |
| May 1 | Th | | Labor Day: Holiday |
| May 9 | F | | Founder's Day (Classes are not in session) |
| June 5 | Th | 4:00p.m. | Deadline for Officially Withdrawing from a Course |
| June 10 | T | | Tuesday classes do not meet: Thursday classes meet |
| June 11 | W | | End of classes/Wednesday classes do not meet: Thursday classes meet |
| Jun. 12 | Th | | Reading Day |
| Jun. 13-23 | F-M | 7:45a.m.-9:00p.m. | Final Examinations Period |
| Jun. 27-28 | F-Sat | | Entrance Examinations for Fall Semester 2008 |

SUMMER SESSION 2008

| | | | |
|----------------|--------|-------------------|---|
| Jun. 30-July 1 | M-T | 8:00a.m.-2:00p.m. | Registration Period |
| July 2 | W | 7:30a.m. | Classes begin |
| July 3 | Th | 8:00a.m.-2:00p.m. | Drop and Add (Classes are in session) |
| July 4 | F | 8:00a.m.-2:00p.m. | Late Registration (Classes are in session) |
| Jul. 11 | F | 7:00p.m. | Commencement: Conferring of Degrees |
| Aug. 8 | W | 2:00 p.m. | Deadline for Officially Withdrawing from a Course |
| Aug. 12 | T | 2:00 p.m. | End of classes. |
| Aug. 13 | W | | Reading Day |
| Aug. 14-16 | Th-Sat | 7:45a.m.-9:00p.m. | Final Examinations Period |
| Aug. 15 | F | | Assumption Day: Holiday |
| Aug. 29 -30 | F-S | | Entrance Examinations for Fall Semester 2008 |

PROFILE: NOTRE DAME UNIVERSITY- LOUAIZE

LOCATION AND CLIMATE

The Notre Dame University-Louaize Main campus is located in Zouk Mosbeh, a coastal area 15 km north of Beirut. At an altitude of 100 m, the campus overlooks the beautiful bay of Jounieh. It affords easy access to the economic and social life of a growing urban area. Theaters, elegant shops, coastal resorts, all lie within a short driving distance from the University. Also accessible are the Ouyoun As Siman and Fakra winter tourist areas. The climate of Zouk Mosbeh is moderately cold from December to March and moderately hot from June to September. The Fall and Spring seasons are usually sunny and cool. On the average, there are 300 days of sunshine each year, a fact which allows for a variety of outdoor activities.

The NDU North Lebanon Campus is located on the green hills of Barsa, a quiet village in Koura, at an altitude of 100 m. The campus overlooks both the beautiful bay of El Mina-Tripoli, and the high mountains of Ehden and Bcharré. Moreover, it lies within a 10-15 minutes driving distance from Tripoli, Zgharta, Chekka, and other villages in Koura. The clean and quiet environment and the moderate climate add to the charm and attraction of the campus. The campus lies on a piece of land of 50,000 square meters donated by the village of Barsa. The first building of the Barsa Campus, totaling 10,000 squaremeters of floor space, was completed in June 1999.

The NDU Shouf Campus is housed within the premises of St. Abda Monastery in Deir El-Kamar. The monastery, a historic place, is being restored not to its former state but to a standard that would will maintain its traditional and aesthetic appeal. (The campus is expected to accommodate a student population of 3000 or so students.). The visible benefits are everywhere in evidence. Today, rows of oak and pine trees surround the campus. The grassy evergreen slopes are well preserved. Visitors can easily admire the scenic beauty of the place. Beyond the University campus, the surrounding vicinity of Deir El-Kamar harmonizes gracefully with the monastery premises. This historic city is located in the central area of the Shouf region. It is 35 km from Beirut and is just over 900 m above sea level. In general, the region enjoys a moderate climate except for the winter months, when the temperature may drop to 7°C or below.

STATEMENT OF PURPOSE

Notre Dame University-Louaize (NDU) is a Lebanese non-profit Catholic institution of higher education which adopts the American system of education. The mission of the University is one of promoting universally accepted humanistic, ethical and spiritual values, of enhancing intellectual inquiry and intensifying awareness of human integrity and solidarity.

The religious affiliation of the University does not impose any sectarian obligations on faculty members, staff, or students. The cultural and spiritual heritage of the Maronite Order of the Holy Virgin Mary highlights a belief in a unified Lebanon, a belief in education as a means of protection against fanaticism and corruption and a dedication to freedom of thought and expression. The University espouses such values and beliefs irrespective of color, creed, race, or gender and seeks to enhance these values through the liberal education it offers and the career preparation that caters to the real needs of Lebanon and the region.

For the fulfillment of these goals, the University seeks

- to develop the mental, physical and spiritual potential of the student
- to enhance loyalty to the country based on freedom, justice and equality
- to promote a faith in God based on free and responsible choice

NDU PAST, PRESENT AND FUTURE

Notre Dame University-Louaize (NDU) was founded by the Maronite Order of the Holy Virgin Mary, the first western-oriented ecclesiastical order in the Middle East.

Since its foundation in 1695, the Order has been a pioneer in promoting free education. It established its first school in 1696. Its zeal in promoting education and improving the lives of the people it serves prompted it to host the Lebanese Synod of 1736, which set the constitution for Maronite Christians everywhere. The Synod, attended by all the religious and secular leaders of the Maronite community, took very important decisions concerning education. It stressed that education be free and compulsory for boys and girls. The Synod also introduced foreign languages into the educational system in order to promote openness towards foreign cultures.

Continuing in the same tradition, in 1978 the Order started a new venture. Reverend Bechara Rahi (a former member of the Order and now Bishop of Jbeil) founded, in cooperation with Beirut University College, the Louaize College for Higher Education (LCHE).

Later, inspired by a deep apostolic concern and guided by the needs of the community, the Order decided to start a new chapter in its history by founding an independent university. The legal finalization of this project was the promulgation by the President of The Lebanese Republic of the decree number 4116 on August 14, 1987, granting the right to operate an independent university. NDU was thus born.

Along the lines set by the Vatican II Council, the Order decided to call on prominent persons from Lebanese society to oversee the operations of the University. It established the Board of Trustees of NDU to supervise the academic and administrative operations and to help in planning the development of the University.

Since its foundation, NDU has gained for itself an honorable reputation. Existing curricula have been regularly revised and updated to be in line with the most recent developments in the world. Qualified faculty have been recruited. High quality students have come to NDU for learning and NDU graduates are in demand and enjoy good employment conditions.

In 1990, NDU established an Off Campus Program in North Lebanon, at Chekka. In 1999, it moved to a new campus located at Barsa, Koura, now known as North Lebanon Campus (NLC). NLC offers undergraduate programs leading to the bachelor degree in all majors offered at the Main Campus. In October 2001, NLC began offering the MBA program, and the B.E. in Computer and Communication Engineering.

The NDU Shouf Campus may be seen as a recent manifestation of NDU's proposed expansion and growth. After establishing itself as one of the leading universities in Lebanon, NDU's administration, guided by the needs of the Shouf and neighboring communities, decided to start a new chapter in its history by founding a new campus in the Shouf district. This proposal was later approved by the Board of Trustees in its meeting of March 8, 2001.

In October 1992, NDU established graduate programs, recognized by the Lebanese Government, leading to the Master degrees in:

- Computer Science
- Business Administration
- International Affairs and Diplomacy
- English Literature
- Applied Linguistics and TEFL
- Arabic Language and Literature

As of April 1994, NDU established the Faculty of Engineering and Architecture, and on October 5, 1996, the Lebanese Government issued a decree number 9278 granting the official recognition of the programs that lead to the Bachelor of Architecture and the Bachelor of Engineering in Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering.

And as of the spring 2000, NDU established the Faculty of Architecture, Art and Design, and the Faculty of Political Science, Public Administration and Diplomacy. Consequently, the Faculty of Engineering and Architecture simply became the Faculty of Engineering.

NDU is in its final stages of building a new campus that will accommodate 7000 students on a piece of land overlooking the Dog River valley and with a total area of one million square meters (donated by the Order). The total floor space of the campus will amount to 48,000 square-meters. The foundation stone for the new campus was laid on November 19, 1994 and the construction is now in its final phases.

The first phase of the construction project, completed in the summer of 1997, totaling 23,300 square-meters of floor space, accommodates the Administration, the Library, the Computer Center and the Restaurant. It has a surface area of 21,000 square-meters for lecture rooms and laboratories. In the present phase, NDU is building a Student Hall, faculty residences, student dormitories, a church with a capacity of 1,000 persons, a theater (also for 1,000 persons) and parking areas for approximately 1,000 cars.

The third phase will see the completion of the campus facilities which will include a large area for sports activities.

The University is a member of the:

- Action Chrétienne en Orient, *Strasbourg, France.*
- Association of Catholic Colleges and Universities, *Washington D.C., USA.*
- Association of International Educators, *Washington D.C., USA.*
- Association Internationale des Universités, *Paris, France.*
- Comunità delle Università Mediterranée, *Bary, Italy.*
- Council of Independent Colleges, *Washington D.C., USA.*
- Fédération Internationale des Universités Catholiques, *Paris, France.*
- Federation of Arab Universities, *Amman, Jordan.*
- The College Board, *USA*
- The American Association of Collegiate Registrar's and Admissions Officers (AACRAO)
- The Association of International Education (NAFSA), *USA*
- The European Association of International Education (EAIE)

In addition, the Faculty of Business Administration and Economics is a member of the European Council for Business Education, *Switzerland.*

CAMPUS MINISTRY

NDU believes that the spiritual dimension of human development should grow together with all other areas of interest to the University environment. It seeks to instill in the University community a deep concern for the rights and dignity of the human person, especially the poor and most vulnerable. It promotes religious awareness in students and faculty members.

The Campus Ministry is staffed by five full-time campus ministers who celebrate masses and religious services daily at convenient hours in the University Chapel, and cater for the religious, personal and moral concerns of the University community.

The Spiritual Family is actively engaged in promoting religious awareness. Throughout the year, it organizes several week-end spiritual retreats conducted by student leaders. It also invites lecturers on spiritual issues, initiates gospel discussions and organizes social activities.

ACADEMIC SUPPORT SERVICES

ACADEMIC ADVISORY SERVICES

Coordination of academic advising at NDU is intended to ensure appropriate advising to students. Following admission to the University, students are referred to faculty advisors who assist them in the selection of appropriate courses. The Faculty Advisory Service also helps students take academic decisions based on their abilities, interests and goals, following up their academic progress throughout their university years and helping them, when needed, reconsider their choices of major. Students are encouraged to seek information and assistance from faculty advisors on all matters relating to their educational plans.

THE LIBRARIES

Recognizing that the Library is central to fulfilling the mission of the University, the Notre Dame University-Louaize (NDU) Libraries keep up-to date with the latest publications relevant to the major programs of study through purchases and an active local and international gifts and exchange program. The Libraries welcome and encourage donations and institutional exchanges that support the University's academic programs and the scholarly, teaching, and research interests of the NDU community.

The NDU Libraries consist of the Mariam and Youssef (Main) Library at the Zouk Mosbeh Campus, the NLC Library at the Barsa Campus and the Shouf Library at the Deir el Kamar Campus. The NDU Libraries are also responsible for maintaining and developing the research (non-circulating) collections of the Academy of Marian Studies (AMS) Library and the Lebanese Emigration Research Center (LERC) Library.

The Mariam and Youssef Library provides access to an expanding collection of core reference and circulating materials in print, manuscript, electronic, audio, visual, cartographic, and other appropriate formats. It also provides individual and group study space for more than 300 simultaneous users and a computer technology lab used for instruction and public access to the Libraries electronic resources. The NLC Library and Shouf Library provide access to a core collection of references, circulating materials, periodicals and electronic resources, in addition to providing space for quiet, individual study.

All NDU Libraries collections, including the AMS and LERC collections, are searchable via WebView, the NDU Libraries web-enabled online public access catalog (OPAC), which is available from NDU's website (<http://www.ndu.edu.lb>).

The NDU Libraries are open to all users, however only NDU faculty, students, staff and alumni are currently granted borrowing privileges. NDU Libraries guests and visitors are allowed to access and use the library's resources within the confines of the library only. NDU Libraries materials may be requested and borrowed from any campus library, regardless of where they are housed.

The NDU Libraries are a founding member of the Lebanese Academic Library Consortium (LALC) with the American University of Beirut Jafet Library, the American University of Beirut Saab Medical Library, the Lebanese American University Libraries and the University of Balamand Library.

The University possesses a valuable collection of manuscripts and unique folio editions relating to Eastern Christianity and its history, kept at the five-century old Louaize

Monastery. The Center for Digitization and Preservation (CDP), established in 2003 and housed at the Mariam and Youssef Library, has digitized all manuscripts owned by the Maronite Mariamite Order in Lebanon and Rome, Italy, in order to preserve these materials and provide access to this unique collection to scholars around the world. Now the CDP is actively digitizing many other collections owned by other institutions and individuals in Lebanon.

DIVISION OF COMPUTING SERVICES

Vision

The Division of Computing Services is committed to the strategic use of the information technology for the continual improvement of the operation of Notre Dame University.

Goals

We strive to support the essential educational, research and administrative goals of Notre Dame University through the development and delivery of computing and communication services to the university's faculty, students and staff.

Goal for Faculty:

Provide stronger links with faculty members in order to promote and facilitate their use of technology to support teaching and learning.

Goal for Students:

Ensure that students have the necessary skills to take advantage of Notre Dame University's technology environment.

Goal for Staff:

Provide staff members with the necessary technological tools that are current and reliable so they can serve the NDU community effectively.

Equipment and Facilities

The administrative Computer Center is equipped with enterprise servers used for the Registrar, Library and various Business and Administration applications using the latest Data Base technologies.

For academic purposes, SUN and IBM Mini computers, Terminals and X-Stations operating under Unix, are used by Computer Science and Engineering students. A set of servers operating under Unix, control the campus Internet and Intranet networks.

All Faculties have active computers running various platforms such as PC/Windows, PC/Linux, Sun/Solaris, and IBM/AIX. Unix workstations and Windows 2000 operating systems have transparent access to the Servers, and to one another through Network File System and Remote File System access.

The Main Campus Intranet is a fully interconnected, multimedia, multi-protocol infrastructure spanning well over 1 km of area networks and over 800 computers on the network. The new network is a routed, full duplex, fiber based, Gigabyte Ethernet backbone with Gigabyte Ethernet (1000 Mbps) links to all the major buildings. Network connection in offices and rooms are at 100 Mbps switched Ethernet.

A PowerPC and Macintosh network is connected to a variety of peripherals, and are available for Visual Arts students including: color laser printers, scanners and plotters.

Special classrooms are linked to the backbone network via communication lines and have local resources to allow the instructor an indoor on-line demonstration with illustrative materials projected during class hours. Students are required to put into practice the

theoretical concepts and gain working knowledge during regular laboratory sessions scheduled individually for each course.

FAAD ACADEMIC SUPPORT FACILITIES

FAAD studios are designed to meet the various needs of Architecture, Art and Design programs. The studios are furnished with professional drafting tables and are appropriately equipped to provide support to all Architecture, Design and Fine Art courses.

MAC COMPUTER LABORATORY

Students have access to the up-dated Mac Computer Laboratory and the latest softwares to facilitate their performance. Furthermore, two adjacent special classrooms for Art History and other lectures are available for projection purposes.

PHOTOGRAPHY LABORATORY

The photography Laboratory is a place where Architecture, Design, and Art students as well as other disciplines at NDU learn how to develop, print, and experiment with the techniques of still photography. The Lab is professionally designed and equipped to provide hands-on learning experience and optimal working conditions under the supervision of qualified instructors. The Photography Lab is equipped with up-to-date technology.

THEATER

Present facilities are adequate for the housing of the activities of theater arts students. Also, a state-of-the-art theater is now available for FAAD students.

DOROTHY SALHAB KAZEMI - CERAMIC ATELIER

This Ceramic Atelier is equipped with two kilns and several wheel tables. Students can enjoy manual work with clay (slab, coil building, throwing), and clay enamels powder glazing. The Ceramic Atelier has a terrace with view giving to the pine trees.

METAL AND WOOD WORKSHOP

The metal and wood workshop has the necessary tools that will help Architecture, Interior Design & Visual Arts students in the creative process of their works.

SMART ROOMS

The three smart rooms are fully equipped with computer hardware and softwares, LCD projector, and Projection panel. In addition, an overhead projector and slide projectors are available for all class sessions.

COMPUTER WORKSHOP

A computer workshop has been set up for the Architecture students; it is located next to the Architecture studios.

RADIO/TELEVISION STUDIO

The studio provides mass communication students and especially those majoring in Radio and Television with a solid mix of audio and video equipment that will enable them to apply their theoretical knowledge of the field. Under the supervision of qualified instructors and staff members, students have ample opportunities to utilize a variety of equipment including mixing and editing machines , Betacam and SVHS recorders, amplifiers, equalizers, lighting devices, professional cameras and outdoor shooting equipment. The

studio has expanded its services to include a separate room well equipped to serve as a model radio station.

In addition to the services rendered to students, the studio also serves the university as a whole. Most university activities such as lectures, seminars, presentations and special celebrations are all recorded on video tape and kept in the studio's archives.

PROJECTION ROOM

The Projection Room is the latest addition to the academic support facilities to be used by mass communication students and students of film and television. Latest TV projector equipment is available along with the necessary equipment for comfortable viewing. This room is also used by NDU's Ciné Club.

SCIENCE LABORATORIES

Science programs are supported by well-equipped physics, chemistry and biology laboratories open to all students. These laboratories are managed by qualified and dedicated staff.

ENGINEERING LABORATORIES

Engineering programs are supported by state-of-the-art laboratories that are open to all engineering students. These laboratories and workshops are managed by qualified and dedicated staff.

The Department of Civil and Environmental Engineering offers seven laboratory courses to cover the main topics in the fields of concrete and pavement design, environmental engineering, mechanics of materials, soil mechanics, hydraulics, field surveying and engineering graphics.

The lab equipment is continuously upgraded and updated to ensure that our students are exposed to the most recent and advanced systems. The department also ensures highly accurate and professional testing facilities such as spectrophotometry, strain gauging, triaxial testing, open and closed channel flow measurements, and total station application. Most of the lab facilities are connected to a data acquisition system. In addition, field equipments are available for in-situ testing, such as soil investigation, groundwater and surface water testing, and concrete quality control. Professional commercial testing as well as community services are also performed on a regular basis in the above areas.

The Electrical, Computer, and Communication Engineering Department has several laboratories which support teaching in the areas of communication systems, electronic circuit design including microprocessors and programmable logic controllers, instrumentation, electric machines, power electronics, control systems, and digital signal processing. The laboratories are also used by students for executing their engineering project designs. The equipment is regularly updated to ensure that students are exposed to the best possible laboratory experience.

State of the art laboratory equipments are being used in the Mechanical Engineering Department for training purposes. The list includes: Large wind tunnel for various aerodynamics testing, Energy testing (solar system, combustion, etc...), Turbomachines testing (centrifugal pumps, fans, Pelton wheel, Francis turbine, etc...), Air-conditioning testing (heating, cooling, refrigeration, etc...), Mechanical vibration testing and Mechanical components and systems.

STUDENT AFFAIRS OFFICE

The Student Affairs Office at the University is a service-oriented unit. It provides a number of activities and services to complement the academic work of students and help them actualize their full potential. The office creates healthy physical, social, personal, moral and cultural environments to ensure that students can make the most of their university experience.

- Undergraduate Financial Aid
- Clearance - National Social Security Funds
- Health Services
- Student Life Office
- Student facilities Office
- Athletic Services
- Clubs and Societies
- Student Union

UNDERGRADUATE FINANCIAL AID

Objectives

It is the philosophy of Notre Dame University that students should not be denied the opportunity of furthering their university education because of limited financial resources. The Student Financial Aid Program was established to meet the goal of this philosophy by providing qualified students with financial aid regardless of color, race, gender, religion, nationality, or political affiliation.

The following is a brief description of the various financial aid policy for undergraduate students.

Work-Study Grants (WSG)

The work-study grant is designed to assist full-time students with proven financial need to cover part of the cost of their education. Students who qualify as assistants are assigned to various departments or offices in the University.

Students will have to set a schedule for their working hours. The schedule should not conflict with their class schedule and should be signed by the Supervisor and the Financial Aid Officer.

The hourly rate for students on WSG is 4.5% of the actual rate per credit of each major. Students may receive up to 40% of his/her tuition fees through WSG.

Students eligible for a WSG will have the added benefit of developing their working skills as well as gaining a deeper sense of personal responsibility and accomplishment.

Eligibility

To be eligible for work-study grant, a student must:

- demonstrate financial need.
- have completed 12 credits at NDU (remedial credits not included).
- have demonstrated academic potential (cumulative GPA, minimum 2.3/4.0)
- be enrolled as a full-time student with a minimum of 12 credits each semester and a minimum of 9 credits during the last semester at NDU. Only Interior and Graphic Design students are eligible for WSG in their last academic year, since they are required to take 10 credits in their last two semesters of enrollment. This must be confirmed by the Chairperson of the Visual Arts Department.

Conditions

Any student who has been granted a WSG will be covered for a full academic year (exclusive of summer session) unless:

- his /her GPA drops below 2.3/4.0 during the first semester.
- he/she receives a scholarship from another institution exceeding 50% of tuition.
- he/she benefits from the sibling grant or the scholarship.
- he/she registers for less than 12 credits during each semester and less than 9 credits during the last semester at NDU.
- he/she does not fulfill the job requirements assigned by the Financial Aid Officer.
- he/she does not abide by the rules and regulations of the assignment.
- it is revealed later that the information submitted is forged.

Procedures

Undergraduate students may apply for financial aid by filling out an application form which can be obtained from the Financial Aid Office.

Upon taking this application, the student should schedule an interview with the Financial Aid Officer and submit the complete form with the appropriate documents before the official deadline. Every semester, dates and deadlines for obtaining and submitting applications will be updated and posted on the Financial Aid bulletin boards and on the NDU Website.

WSG applications must be submitted one semester in advance (for a Spring semester WSG, the application must be received by the Financial Aid Office during the previous Fall semester).

Students applying for WSG may receive a home visit from the Financial Aid Officer. After the procedure is completed, the Financial Aid Committee will review each application carefully and give the appropriate decision.

Dates and deadlines for obtaining and submitting applications will be posted on the Financial Aid Boards and on the NDU bulletin boards each semester, and scheduled in the academic year calendar.

The applications are to be taken and submitted during the previous semester (e.g., you have to apply in the spring semester to benefit for the next fall semester).

For more information, consult the Financial Aid Officer.

Student Employment

Full-time students proving to have special skills which none of the WSG students possess may be employed for the duration of one semester upon the request of Faculty Deans for academic reasons. The Financial Aid Committee will determine the working hours and the hourly rate.

Grants

a. Grant for Excellence

Students demonstrating excellence in sports, artistic, cultural, and social activities and representing the university in national and international contests could benefit from a grant ranging from 10 to 15% of tuition as determined by the Financial Aid Committee upon the recommendation of the Director of the Student Affairs Office.

To be eligible for a sports grant, the student has to:

- join a sports team at NDU
- complete 12 credits at NDU (remedial credits are not included).
- be enrolled in 12 credits (remedial credits are not included) each semester, and in at least 9 credits during the last semester
- maintain a minimum cumulative GPA of 2.00

b. Sibling Grant

A sibling grant is given when two or more brothers and/or sisters are registered at NDU with proven financial need. If eligible, each sibling may benefit from a discount ranging from 10% to 25%, based upon need. Benefiting from the grant depends on the Financial Aid Committee's decision, which will determine the percentage of reduction to be allocated.

Eligibility

To be eligible for a sibling grant, a student must:

- Be enrolled as full-time student with a minimum of 12 credits except during the last semester before graduation when the number of credits may drop to 9 credits;
- Maintain a minimum cumulative GPA of 2.00.
- Be a sophomore, junior, or senior student (Intensive, Freshman, and Masters students are not eligible)

If one of the siblings does not fulfill the above criteria, the other(s) may benefit if his/her sibling is enrolled in 9 credits minimum for the undergraduate students and in 6 credits minimum for the graduate student. Benefiting from the grant depends on the Financial Aid Committee's decision, which will determine the percentage of reduction to be allocated.

Procedure

Siblings wishing to obtain a reduction on their tuition fees are asked to fill a Financial Aid Application, which is to be studied and approved by the Financial Aid Committee.

The Financial Aid application must be submitted along with the required documents within the period given by the Financial Aid office.

The sibling grant is given for one academic year. The students have to renew their application during the spring semester for the next academic year.

Every semester, dates and deadlines for obtaining and submitting applications will be updated and posted on the Financial Aid bulletin boards and on the NDU website.

Undergraduate Scholarship

The student shall benefit from the program according to the following scale:

Cumulative GPA from 3.40/4.00 to 3.65/4.00 ----- 25% Scholarship

Cumulative GPA from 3.66/4.00 to 3.79/4.00 ----- 50% Scholarship

Cumulative GPA from 3.80/4.00 to 4.00/4.00 ----- 75% Scholarship

Eligibility

To be eligible the student must

- have completed 12 credits at NDU (remedial credits are not included).
- be enrolled in 12 credits (remedial credits are not included) each semester and in a minimum of 9 during the last semester.
- have demonstrated academic excellence by maintaining a high cumulative GPA (3.40/4.00 and above).

Procedure

If the student fulfills the above criteria, he/she does not have to apply, but will automatically benefit from the discount on his/her tuition fees.

CLEARANCE - NATIONAL SOCIAL SECURITY FUNDS

Returning Students

Returning students under the age of 30 who are sophomores, juniors, seniors, graduate and who

a. benefit from any of those governmental health plans:

- صندوق تعاونية موظفي الدولة
- صندوق تعاضد القضاة
- صندوق تعاضد الهيئة التعليمية في الجامعة اللبنانية
- البلديات
- الصندوق الوطني للضمان الاجتماعي

must:

- fill out Form B (تصريح استفادة)
- attach an original statement from the local office they (or their parents) belong to (افادة من مركز التبعية الرسمي), which certifies their benefit.
- attach a photocopy of their Family Status Record (إخراج قيد عائلي) **not older than one year.**

b. benefit from

انظمة القوى الامنية (الجيش), الامن الداخلي, المن العام, امن الدولة, و الجمارك)

must:

- fill the Form B (تصريح استفادة)
- attach a photocopy of their benefit card; (صورة عن البطاقة الصحية المجددة)
- Attach a photocopy of their Family Status Record (إخراج قيد عائلي) **not older than one year.**

N.B: procedure is repeated at the beginning of every academic year.

c. have stopped benefiting from a governmental health plan (mentioned above) while at NDU must:

- fill out Form A1 (تصريح عن طالب جامعي) and Form A2 (تعهد عدم استفادة);
- attach a photocopy of the Family Status Record (إخراج قيد عائلي) not older than one year;
- attach an original statement from the governmental health plan certifying that they are not benefiting ; or a photocopy of the benefit card (Military services).

d. do not benefit from any governmental health plan (mentioned above) while at NDU and are enrolled for the second or more consecutive year at NDU must:

- Verify their cleared status through the SIS program prior to payment at the Bank and the registration procedure accomplishment.

Filling out Form C (إعلام عن طالب مسجل) is the responsibility of the Social Security Office – SAO.

Thus, students who are registered at the National Social Security Funds as NDU students and who did not report any change of status, are not required to pass by the SAO. Their coverage by NDU will be automatically renewed for a fee of L.L. 90.000 payable along with their tuition fee at the bank.

However, if any change of status takes place (new work, new National Social Security Funds coverage...) students are required to inform the SAO. Students who did not complete this step are totally held responsible for any problem that might arise due to an incomplete NSSF file.

- Returning students who reach the age of 30 years old are exempted from presenting any official document and have to fill Form B (تصريح استفادة);

Students will not be able to register if they do not submit the required documents at the Social Security Office at the SAO.

Students can pick up their appropriate forms from the Social Security Office at the SAO or from the Internet (www.ndu.edu.lb).

New students

New students who:

a. do not benefit from any governmental health plan

must:

- fill out Form A₁ (تصريح عن طالب جامعي) and Form A₂ (تعهد عدم استفادة);
- attach a photocopy of the Family Status Record (إخراج قيد عائلي) not older than one year.

b. benefit from any governmental health plan

must:

- fill out Form B (تصريح استفادة)
- attach an original statement from the local office they (or their parents) belong to (إفادة من مركز التبعية الرسمي), which certifies the benefit;
- attach a photocopy of the Family Status Record (إخراج قيد عائلي) not older than one year.

New students accepted as **Intensive English or Freshman (Arts, Sciences)** are exempted from NSSF benefit obligations.

After fulfillment of any of these two levels' requirements (Intensive or Freshman) and before registration of their regular courses, students are requested to pass by the Social Security Office – SAO to present documents required for Clearance like any other regular NDU student.

New students accepted as Foreigners (non-Lebanese students) are exempted from NSSF benefit obligations.

New students (transferred) who benefit from the NSSF through the former University for one or more consecutive years must:

- 1- fill out the Form C (إعلام عن طالب مسجل);
- 2- attach **Receipts** (per Academic year) or **Administrative Statement** in Arabic from the former University;
- 3- attach a **photocopy** of their Family Status Record (إخراج قيد عائلي) not older than one year;
- 4- attach a **photocopy** of their NSSF card.

New students (transferred) willing to register for the Spring Semester and had NSSF clearance as beneficiary from the previous University for the Fall Semester of the current Academic year must:

- 1- fill out the Form B (تصريح إستفادة);
- 2- attach a Receipt or Administrative Statement in Arabic from the former University;
- 3- attach a copy of their Family Status Record (إخراج قيد عائلي) not older than one year;
- 4- attach a copy of their NSSF card.

Students can pick up their appropriate Forms from the Social Security Office – SAO or from the Internet (www.ndu.edu.lb).

On forms A₁, A₂, B, C, the statement, and the photocopy of the Family Status Record (إخراج قيد عائلي) students must write on the top :

- 1- I.D. number as it appears on the letter of acceptance ;
- 2- major;
- 3- date of birth (D.O.B.) as it appears on the I.D. (الهوية)

The Social Security Fund covers 80% of the medication, radiology and 90% of the hospitalization. Besides, it is a Governmental requirement from every student.

The **governmental health plans** approved by the National Social Security Fund (NSSF) are limited to the following ONLY:

(إفادة من مركز التبعية الرسمي
و ليس من مركز العمل)

- صندوق تعاونية موظفي الدولة
- تعاضد القضاة
- اساتذة الجامعة اللبنانية
- البلديات صندوق الوطني للضمان الاجتماعي
- الجمارك
- السلك العسكري

Exception → (صورة عن البطاقة المجددة) →

HEALTH SERVICES

NDU will provide all NDU students with a variety of health services at the new NDU Infirmary located at the Student Affairs Office in collaboration with “Centre de Biologie Moleculaire et Polyvalente – BMP” in Adonis.

a. The following tests are obligatory for all new students before registration:

- Blood cell count
- Blood grouping
- P.P.D.
- Serology HIV
- Hepatitis B
- Hepatitis C
- Chest X-ray

All these tests will be administered at the NDU Infirmary for a fee of L.L. 165,000, to be paid in advance at Byblos Bank. This fee will also allow students to benefit from other services provided at the Infirmary. Any student who is readmitted to NDU after 2 semesters of absentia will have to undergo this procedure again.

b. In addition to the chest X ray, the NDU Infirmary offers radiology x-ray services for emergency fractures. Students pay 80% of the medical expenses upon receiving the services, which is equivalent to what they claim from the NSSF.

- c. The “Centre de Biologie Moleculaire et Polyvalente – BMP” provides technicians to administer the various tests and examinations between 8:00 and 16:00 daily at the NDU Infirmary.
- d. NDU reserves the right to request random blood-tests from any student to test for drug use or for any other medical reason.

The university physician is available twice a week from 11:00 to 13:00 at the Infirmary and is on call for any help and for free consultations 24/7 free of charge.

The university nurse is available on a daily basis from 8:00 to 16:00.

Serious cases are sent to the nearest hospital.

All students with medical ailments have to contact the NDU physician for validation within 48 hours of their sickness/injury. No medical excuses will be accepted at NDU unless validated by the NDU physician.

Counseling Services

The wellbeing of individuals is not limited to physical health but includes physical, mental, and emotional health. At NDU, counselors are available to serve and help the entire NDU community (students, faculty, and staff). This service is rendered with care, respect, and confidentiality.

Assistance is available for a variety of concerns which include, but are not limited to, the following:

- overall stress and anxiety
- crisis intervention for individuals facing traumatic stress
- problems related to eating disorders
- concerns related to addiction (drugs, alcohol, etc.)
- personal issues
- relationship problems
- chronic illness
- sadness and depression
- difficulty adjusting to new situations
- grief and bereavement counseling

Find out more about this service at the Infirmary or by contacting ext.: 2049

Insurance Policy

NDU students who have an accident when practicing any kind of activity inside or outside the university premises are insured up to \$1000. Students should pass by the Infirmary during regular working hours in order to fill out the appropriate form.

If the accident occurs outside working hours, students should go to the Infirmary at a later date to complete the procedure.

This insurance service is in addition to the NSSF coverage.

For more information please contact ext.: 2049 or pass by the Infirmary.

STUDENT LIFE OFFICE

Attendance Policy

Students should attend all classes and laboratory sessions on time. Absences, whether authorized or not, even if below the maximum number (specified below), may alter one's

grade substantially. The SAO alone authorizes absences. No absence absolves a student from responsibility regarding the material presented during his/her absence. **The maximum number of absences permitted in classes that meet on MWF is six; the maximum number of absences permitted in classes that meet on TTH and in the summer is four.** Any student whose absences exceed the maximum limit shall automatically be considered as having failed the course unless the student withdraws.

Students who miss classes or exams should contact the University physician, Dr. Elias Chemaly, within 48 hours of their sickness. The NDU physician should examine each student before deciding whether a medical report should be given or not. The SAO will not issue any excuse without the approval of the NDU physician.

Dr. Elias Chemaly M.D. (Tel. # 03.725559) is available from 11:00 am until 1:00 pm at the Infirmary- SAO.

International Student Services

The international Student Services provides support for international students at NDU and assistance in whatever they may need. It also helps them to integrate into the NDU community, specifically with other students. International students are urged to pass by the Student Affairs Office upon arrival and on a regular basis.

Lost and Found

The Lost and Found Office is operated from the Student Affairs Office. Articles found are to be turned in to the SAO. Persons looking for lost items may inquire at the office or call ext.: 2045. To claim an item, the person must clearly identify it. To help in recovering lost or stolen items, it is suggested that students put their names on their valuables. Items not claimed after sixty days will be considered abandoned

STUDENT FACILITIES OFFICE

ID

The NDU Smart ID card identifies the cardholder as a current member of the university community. It is required for all administrators, faculty, staff and currently enrolled students at the University. It must be carried at all times. The ID card is the property of Notre Dame University; it must be presented upon the request of an appropriate University official, and may be revoked at any time by the University.

Cardholders may use the card to access various privileges and services throughout the campus such as parking, dormitories, Library, etc.

Lost or stolen cards must be reported immediately to ID Card Services-SAO ext: 2306.

Campus Parking

Parking permits are obtained from Parking Services-SAO at the beginning of every semester. Parking permits must be displayed correctly at all times (lower left side of the windshield). All vehicles are subject to university parking regulations while on campus. Any vehicle parked in violation of parking regulations is subject to being removed and impounded at the owner's expense. The university assumes no responsibility for damage or loss of private property. Students are required to abide by and respect the directions of the NDU security personnel.

Student Housing

Arrangements for on-campus housing are made through the Student Facilities Office at the SAO. To reserve a room, students are asked to pass by the SAO with their parents to visit the dormitories and to be informed about the rules and regulations.

ATHLETIC SERVICES

NDU's athletics programs are designed to offer students the opportunity to fully develop their physical potential and competitive spirit while engaging in a sports activity for fun and for health reasons.

NDU's Sports Office provides a wide range of sports activities including: basketball, volleyball, Judo, Taekwondo, Aikido, physical fitness, body building, tennis, swimming, soccer, handball, rugby, track and field, water-polo, table tennis, chess, etc.

NDU's athletic teams are trained by qualified coaches and participate in local, regional, and overseas tournaments earning recognition for themselves and the University.

A multipurpose gym for martial arts, body building, and dancing will be open soon.

STUDENT ACTIVITIES OFFICE

One way for students to be more involved in life on campus is through participation in extra curricular activities by being active members in clubs and societies. For a club to be recognized, its purpose must be consistent with the stated University by-laws and must have a full-time faculty member as an advisor.

The following student clubs and societies have been established for the academic year 2006-2007 to provide recreational and co-curricular activities:

Clubs

Accounting: Provide members with opportunities for academic, personal, and professional development so they may contribute effectively and ethically to society and its organizations.

Advertising: Promote advertising and marketing in Lebanon and educate students on the ethics of advertising.

Architecture: Help students by organizing conferences and workshops to familiarize them more with the field.

Astronomy: Introduce students to basic astronomy, such as, how to locate stars and planets; to create a group of amateur astronomers; and to interact with other astronomers in Lebanon.

Camping: Get closer to nature; explore Lebanon and its magnificent scenery; respect the ecosystem and help protect it; and organize different outdoor activities.

Computer Science: Organize seminars and lectures in the field to keep the students informed and updated on all new technologies.

Debate: Provide academic and social assistance to students to help create a better campus environment; Debate controversial issues relevant to society.

Discovery: A combination of educational, social, and cultural activities which will help students discover various aspects of life in Lebanon.

Entertainment: Organize and promote creative, artistic, and musical activities for students, and discover talented students.

First Aid: Promote awareness regarding First Aid techniques and procedures and offer First Aid courses to all interested students.

Hospitality and Tourism (HTC): Help students become more acquainted with the hospitality industry and promote awareness of the importance of tourism.

International Relations (CIR): Provide academic assistance to students; inform students about politics and how to discuss political issues objectively.

Music: Manage the Music Room on campus; perform live on campus and in collaboration with other universities; encourage different styles of music; and discover new talents.

Radio/TV and Film: Establish an artistic environment in the studio; build a working team spirit for the Radio/TV students; help Radio/TV and Film majors integrate quickly into university life.

Sartarabad: Introduce Armenian culture and heritage to students; organize conferences for different historical commemorations.

Social: Doing fun activities on campus to enhance social life and interaction between students.

Societies

American Society for Heating, Refrigerating and Air-Conditioning Engineering (ASHRAE): Encourage scientific research, provide guidance to the students in the field, and continue the education of members.

American Society of Mechanical Engineers (ASME): Give presentations, organize conferences and academic trips, and show academic videos to help all members advance.

Civil Engineers (SCE): Introduction to civil work, site visits. Organize conferences and software sessions.

.NET: Create a bridge between the students and Microsoft company; promote Microsoft products; provide internships for the Computer Science and Engineering students with Microsoft partners.

Institute of Electrical and Electronical Engineers (IEEE): To promote the ethical use of engineering and technology in society.

Skiing: Provide members with valuable discounts especially on the slopes; organize activities to promote socializing of students.

In addition to club activities, the SAO office coordinates all other activities involving students on campus.

Student Union

The Student Union is the elected body representing students. It assists clubs and societies in the University in their extra-curricular activities that enhance the quality of education and student life in a way that increases student awareness about their rights and obligations, bearing in mind that the responsibilities of the Student Union toward the Administration, faculties, and student body are regulated by rules, regulations, and bylaws.

SPONSORED RESEARCH AND DEVELOPMENT

The Office of Research and Development

This office coordinates and supervises all activities related to research projects and development endeavors. It issues calls for research proposals for evaluation and follow-up. It carries a plan for book publications covering old manuscripts and contemporary writings in the different disciplines related to the programs offered by the University. It has established the archives of research projects and seminar or conference presentations locally and overseas, prepared by NDU faculty and staff members. The Office coordinates with the following Research Centers, and offices namely:

Center for Applied Research in Education (CARE)

The Center was established on October 1st, 2006. The CARE objectives are: to promote multi-disciplinary research in education; to establish and utilize personal contacts with international academic institutions; to conduct analytical studies on curricula development and policy-making studies in higher educational institutions in Lebanon and Arab countries; to organize academic international conferences in the Arab countries; in order to promote excellence in education.

Lebanese Center for Societal Research (LCSR)

The University established a center for research, studies and documentation in the framework of a university research policy that aimed at developing the role of scientific research in the treatment of social, economic, political, educational, ethnical and human issues in society and, further, at activating the contribution of spiritual and civil institutions in this treatment.

Lebanese Emigration Research Center (LERC)

The political, economic and social conditions in Lebanon and the Middle East were direct reasons for increasing the Lebanese Emigration. However, little is known about it and its impact on the Lebanese social, political, economic and cultural structures. Lebanon feels the basic and immediate need for research studies on the subject, where the LERC can play a significant role in collecting information and conducting the necessary and proper research on this vital issue to Lebanon.

The Marian Studies Center (MSC)

The Center was established by NDU to act as a center for the “International Pontifical Marian Academy” in Lebanon and the Middle East. The Center was officially inaugurated in November 2003, and was baptized as The Marian Studies Center.

Water, Energy and Environment Research Center (WEERC)

The WEERC aimed at investigating water energy resources, and the state of the environment in Lebanon and the MENA region under its multi-facial aspect. The role of the Center is to develop appropriate strategies and provide training for the proper optimization and integrated management of water and energy use for a prosperous environment.

NDU Press

Three major steps have been taken by NDU Press to revive book-publishing activities on a professional level:

- all published books, as of October 2000, carry an ISBN number, which ensures recognition for NDU Press in Lebanon, Europe and the USA as a professional university publishing house.
- all books are reviewed with a recommendation to the President before a final decision for publication is made. Specialized scholars are consulted to support such recommendations and decisions.
- an agreement with a distribution agency has been worked out by which all books by NDU Press are distributed to major bookshops in Lebanon and overseas.

American Friends of NDU (AFNDU)

The development responsibilities are to keep strong relationships with the NDU-USA Organization established in February 2001 with three Chapters: Washington DC, Detroit and Connecticut.

The objectives of the *American Friends Association* are:

1. to establish a strong cultural link in order to bind together graduates, friends, former students, and former faculty and staff of NDU residing the USA; share, cherish, and promote the educational values and goals of NDU.
2. to build relationships with the American/Lebanese communities.
3. to establish exchange programs with American Universities and other institutions of higher education.
4. to seek the cooperation of public libraries, university libraries and university press offices for exchanges of publications with NDU.
5. to create direct relations with American Publishers especially for textbook orders and library references.
6. to provide financial assistance.

Exchange and Partnership Programs

This Office initiates contacts with overseas universities and development agencies related to higher education.

The purpose of these programs is to support cocurricular activities and collaborative projects that lead to innovative institutional partnerships and exchange plans of action.

PUBLIC RELATIONS OFFICE

On behalf of Notre Dame University, its campuses and centers, staff and students, the Public Relations Office represents and communicates all programs and policies. The office provides strategic communications consultation, media relations efforts and event planning services university-wide. In addition, it develops communications strategies, identifies emerging issues and works proactively with media outlets. The office is also an active member of the Coordination Council for Catholic Universities in Lebanon (CCUCL) and the Association of Collegiate Registrars & Admissions Officers (Arab – ACRAO) for the universities of the Arab countries.

The Public Relations Office has good contacts with the local media. The office is responsible for writing and distributing press releases and statements, generating ideas for media and organizing press events and conferences that are aimed at promoting a positive image of the Trust.

The office also coordinates with the Ministry of Education and Higher Learning in order to obtain decrees and preliminary verdicts. It also plays a major role in Trust Communications - both internally to staff and externally to public and private sectors. The department is a key link to other Organizations and Public Institutions.

University Relations' writers/editors provide departmental newsletters and program brochures, special events promotional materials (programs, leaflets, posters and invitations) and handbooks.

The department develops and distributes the University's approaches in consultation with the Office of the President.

Press Office

The purpose of the Press Office is to publicize NDU achievements, activities and progress, ensure proper coverage of relevant issues in the local press and publish notices of upcoming events. It also links the press to faculty experts for opinions and analysis, and assists in the production of a variety of publications such as NDU Spirit. The office's press attaché archives press clippings published in the press and posts them on the NDU website.

Placement Office

The Placement Office is an integral part of the Public Relations Office. It is supervised by the Director General of the Public Relations and entrusted to a placement officer.

This office provides employment opportunities for NDU graduates by acting as a liaison between local and international companies, NDU and NDU graduates and Alumni. It also guides students in their search for jobs and schedules on-campus job interviews.

Moreover, it arranges human potential seminars for prospective employers and organizes an annual Job Fair.

Internship Office

The Internship office provides students with practical experience in their major before graduation. For this purpose, the Internship Office is building a contact database with leading reputable institutions, companies, embassies, banks, etc. in and outside Lebanon.

The internships offered are intended to provide real-life experience that compliment the curriculums taught in the classroom. Personal and professional growth is fostered through the proper balance of guidance, independence and the acceptance of responsibility.

The internship will frequently open the door to future employment and will solidify career plans; and in certain cases, it may prompt students to consider other career options.

Museum

The Stone Wing, inaugurated on March 9, 2005, is also supervised by the Director General of Public Relations. It is entrusted to a curator who receives and guides visitors (students from different schools and universities, staff, deans, and national and international guests of NDU) by informing them about the museum and its various and valuable collections.

The duties of the curator encompass the preservation and conservation of the collections, archiving and cataloguing of new acquisitions, scheduling and coordinating visits, and keeping records of all visitors.

ALUMNI AFFAIRS OFFICE

Graduation from Notre Dame University is NOT the end of the student's affiliation with the University. Instead, it is the beginning of a new phase of the relationship with the University. The Alumni Affairs Office (AAO) is responsible for maintaining the links of alumni with the University.

The **Mission of the Alumni Affairs Office** may be identified as:

- Serve the needs of Alumni.
- Foster close relations between the University and its Alumni.
- Maintain an alumni database system as the mailing list for "NDU Alumni"
- Coordinate with NDU Alumni Association.
- Organize professional, cultural, networking and social activities for NDU Alumni.
- Communicate Alumni views, needs and interests back to the University.
- Expand Alumni participation in publicizing the strengths of NDU to the World at large.

The Alumni Affairs Office serves as a focal point for all alumni activities and communications. The Office then will assist in planning or sponsoring alumni activities such as Campus Tour, Alumni Magazine, Alumni Annual Awards, Fundraising, Mentor Program, Class reunions, Alumni Day, Alumni House, Alumni Exhibitions, Career Counseling, ect.

NDU ALUMNI ASSOCIATION

It is an association established in 1992, by a group of graduates who wanted to remain connected to and involved with their alma mater, with the aim of reuniting all graduates of NDU under a common goal: Commitment, Unity and Prosperity to both Notre Dame University and the welfare of its graduates.

Through its various chapters and in cooperation with NDU Alumni Affairs Office, the association seeks to provide alumni with a lasting bond to the University.

DIVISION OF CONTINUING EDUCATION

The Division of Continuing Education provides learning opportunities for individuals who want to develop their knowledge and skills without enrolling in regular academic programs.

The courses given by the DCE are administered in the afternoon, each for a period of six weeks.

The following are the various programs offered by the DCE:

BUSINESS CERTIFICATES

Business Management
Business Marketing
Business Accounting
Banking & Finance
Human Resources Management
Entrepreneurship

COMPUTER CERTIFICATES

Computer Applications & Office System
Computer Engineering & Architectural Production
Desktop Publishing
Website Design
Multimedia Production
TV-Production & Motion Graphics

ENGLISH LANGUAGE

Proficiency in English
English for Bankers
English for Business
Spoken English
Public Speaking

OTHER PROGRAMS

Certification Programs

CMA: Certified Management Accountant
CPA: Certified Public Accountant
CFA: Chartered Financial Accountant

Executive Training Program

LMI: Leadership Management International
AIF: Applied Investment Finance

Arts & Crafts

Drawing and Painting
Lace Embroidery
Cooking and Decoration
Ceramics

University Preparatory Programs

SAT I; SAT II; TOEFL; EET; GMAT

ADMISSIONS OFFICE

Notre Dame University (NDU) is a Lebanese non-profit Catholic institution of higher education that adopts the American system of liberal arts education. NDU stresses the cultural and spiritual heritage of the Maronite Mariamite Order, a pioneer in education as a means of promoting human dignity since its foundation in 1695. The religious affiliation of the University does not entail any sectarian obligation: applicants are granted equal opportunity irrespective of color, religion, gender, creed, disability or national origin. **By promoting its academic and administrative facets and by recruiting students from local, regional and international provenance, the Admissions Office aims at enhancing the universal image of NDU, an institution where all can explore the horizons of positive plurality within a rich human spectrum.** At present, the seven Faculties at NDU are attracting students from over 40 countries worldwide and are catering for the market demands of Lebanon and its surroundings.

UNDERGRADUATE ADMISSION

Applications may be downloaded from the NDU Home Page (www.ndu.edu.lb). Applicants must complete the application form and return it with a non-refundable fee of 100,000 L.L. to the Admissions Office. NDU Examination fees are 150,000L.L..[75,000L.L. (English); 75,000L.L. (other)].

The following documents must be submitted with each application form:

- A Secondary School Record and a Letter of Conduct from the school principal.
- A Letter of Recommendation from the school principal (or from the university administration, if any).
- A photocopy of the Identity Card or Passport
- Two recent passport-size photos.
- Certified copies of all official certificates or diplomas.
- Scores of exams taken outside NDU (TOEFL, SAT I and SAT II)

Freshman applicants must additionally submit:

- An official school document attesting that they have completed and passed their High School requirements
- A written authorization from the Equivalence Committee
- Scores of both SAT I & SAT II.

Documents must be original. All documents submitted to complete a file become the property of NDU. Whether accepted or rejected, applicants may not claim any of the documents.

Following is a table of the deadlines for submitting applications and the exam dates. Although these dates change according to the calendar year, they will always fall on a Friday along with the consecutive Saturday.

| Semester | Application Deadline | Examination Dates |
|-----------------------|-----------------------|------------------------|
| Spring Semester, 2008 | November 1-30, 2007 | December 14 & 15, 2007 |
| Fall Semester, 2008 | May 1-June 1, 2008 | June 27 & 28, 2008 |
| Fall Semester, 2008 | July 2-August 1, 2008 | August 29 & 30, 2008 |

Applicants may check their status on the website. This status, however, is not final until the applicant receives an official letter of admission from the Admissions Office along with all documents for registration. These include the methods of payment from the Business Office as well as social security clearance and medical exams from the Student Affairs Office.

FRESHMAN ADMISSION REQUIREMENTS

Non-Lebanese or students who have followed a High School program for at least three years may apply to the Freshman Class. They must hold a secondary school certificate (Grade 12) recognized by the Lebanese Ministry of Education. Applicants to the Freshman Class are required to take both the Scholastic Aptitude Tests SAT I & SAT II prior to registration as required by the Lebanese Ministry of Education for the equivalence of the Baccalaureate Part II. These tests will be specified according to either the Freshman Sciences or Arts stream. SAT I includes Verbal Reasoning, Mathematical Reasoning and Writing. SAT II (Arts) includes Math 1C plus two SAT II Subject Tests. SAT II (Sciences) includes Math 2C plus two of the following science subjects (Biology, Chemistry, Physics). The required minimum score for the combined SAT I & SAT II is 2750 for Freshman Arts and 2850 for Freshman Sciences.

In addition to the SAT I & SAT II, applicants must sit for either the EET (NDU English Entrance Test) or the TOEFL (Amideast).

Moreover, applicants to the Freshman Class must obtain a written authorization from the Equivalence Committee of the Lebanese Ministry of Education. This document will allow students to pursue their higher education on the basis of a foreign program.

Note: Freshman students must successfully complete at least 30 credits in order to receive an equivalence. Students may not be promoted to a Sophomore (or any other) class before they complete all Freshman requirements.

SOPHOMORE AND FIRST YEAR ADMISSION REQUIREMENTS

Applicants must hold the Lebanese Baccalaureate Part II or its equivalent, as determined by the Lebanese Ministry of Education, in order to be eligible for the Sophomore or First Year Class. The strand of the Lebanese Baccalaureate Part II (General Sciences, Literature and Humanities, Social Sciences and Economics, Life Sciences) must correspond to the requirements of the desired program of study of the respective Faculties at NDU. **Applicants must accumulate a certain score required by these Faculties in order to be admitted in their offered majors. This score is calculated by allocating 55% weight to the school grades (second and third secondary years) and 45% to SAT I (or NDU Entrance Test)**

TRANSFER ADMISSION REQUIREMENTS

Applicants who have completed at least 12 credits at the Sophomore level and/or First Year level outside NDU with a cumulative GPA of at least 2.0/4.0 beyond their secondary school education, and have been accepted by NDU's Admissions Office to register for a full-time load during the Fall or Spring semester, are considered transfer students. Courses earned at other institutions recognized by NDU, graded C or higher, and matching courses offered at NDU, are considered transferable.

Only courses completed at NDU will be computed in the student's GPA. Transfer students to the FAAD (excluding BA in Graphic Design) and FE must complete at least 45 credits at NDU with a cumulative GPA of 2.0/4.0 and meet all other graduation requirements for that degree. Transfer students to the FBAE, FH, FNAS and FPSPAD must complete at least 30 credits at NDU with a cumulative GPA of 2.0/4.0 and meet all other graduation requirements for that degree.

Transfer applicants must submit official transcripts of records as well as a catalog from the previous college or university along with an application for admission to NDU. The conditions for acceptance are specified by the University Admissions Committee, and applicants will be notified of these conditions prior to registration.

ADMISSION REQUIREMENTS FOR FOREIGN STUDENTS

Foreign applicants must complete an application form and submit it to the Admissions Office along with the appropriate documents. The form can be downloaded from NDU home page (www.ndu.edu.lb). Foreign students must fulfill requirements specified by the Admissions Office in accordance with the rules and regulations set by the Ministry of Education.

ADMISSION REQUIREMENTS FOR SPECIAL STUDENTS

Students who are not working toward a degree are considered Special Students. Applicants must complete an application form and submit it to the Admissions Office along with the appropriate documents. Admission requirements for such applicants are the English

Entrance Test (EET), if they are from non- English institutions, and the Bacculaureate Part II or its equivalence. The Admissions Committee will study any other special case. Special status is granted for one academic semester. Thereafter, if a student petitions for a ‘Regular Student Status’, he/she must fulfill all admission requirements, including passing the required entrance exams, before the procedure of his/her admission to the ‘Regular Student Status’ can be started..

ADMISSION REQUIREMENTS FOR AUDITORS

Students applying as Auditors are not entitled to a degree or credits or grades for the courses that they attend. An application form must be completed and submitted to the Admissions Office along with the appropriate documents. Admission requirements for such applicants are the English Entrance Test (EET) if they are from non- English institutions. In general, applicants must be university level students. If not, their files are considered on an individual basis

ADMISSION REQUIREMENTS FOR A SECOND DEGREE

Students who already have a university degree can apply for a second degree. The number of credits required for graduation are determined by the concerned Faculty. However, the minimum residency requirements are 30 credits.

ADMISSION REQUIREMENTS FOR TEACHING DIPLOMA/CERTIFICATE

Applicants who hold a Bachelor Degree can apply for the Teaching Diploma in the same area of specialization. Applicants who have the Bacculaureate Part II, or a Bachelor Degree in a different area of specialization, may apply for a Teaching Certificate. Applicants who have been out of school for five years or more are required to fulfil NDU admission requirements.

ADMISSION REQUIREMENTS FOR SUMMER ARABIC PROGRAM

Anyone who is interested in attending the Summer Arabic Program offered by NDU must submit an Undergraduate or Graduate Application Form (to be downloaded from www.ndu.edu.lb under Admissions Office) along with the Application Form as it appears in the Summer Arabic Program brochure. In addition, an official transcript of the most recent academic year is required. The questionnaire of purpose (see the brochure) must be completed and submitted along with a recommendation from an Arabic language teacher (where applicable). A writing sample from an Arabic course, test or homework is also required. The non-refundable application fee is US\$30 (check or money order made to Notre Dame University, Lebanon).

ADMISSION REQUIREMENTS FOR UNIVERSITY EMPLOYEES

Notre Dame University employees who request admission to a program of study must meet the minimum admission requirements of the respective Faculty. Accordingly, entrance tests, interviews and recommendations shall be left to the discretion of the concerned Faculty. However, employees are considered regular applicants and must abide by the University policy. The Director of Admissions will issue a letter of admission to identify the academic status of the applicant.

ENGLISH PROFICIENCY REQUIREMENTS

All applicants must satisfy an acknowledged level of English proficiency in order to be admitted. Notre Dame University recognizes one of the following instruments to measure this level:

EET (English Entrance Test) administered by NDU.

OR

TOEFL (Test of English as Foreign Language) administered by Amideast.

OR

The writing section of the SAT I.

A student has to pass the EET with a minimum score of 650 in order to be admitted without remedial English courses, and a minimum score of 350 in order to be admitted with remedial English courses. Following are the required remedial English courses along with their corresponding EET score ranges.

| EET Score Ranges | Accepted/Rejected | Corresponding Remedials |
|------------------|-------------------|-----------------------------------|
| 650 and above | Accepted | No remedials (ENL 213) |
| 600-649 | Accepted | ENL 110 |
| 500-599 | Accepted | ENL 105 ¹ (5credits) |
| 350-499 | Accepted | ENL 002 ² (12 credits) |
| 0-349 | Rejected | |

A student must pass the TOEFL with a minimum score of 243 (computer-based), [590-593] (paper-based) or [96-97] (internet-based, or iB), in order to be admitted without remedial English courses, and a minimum score of 180 (computer-based), [507-510] (paper-based) or 64 (internet-based), in order to be admitted with remedial English courses (including intensive).

Following are the required remedial English courses along with their corresponding internet-based TOEFL score ranges.

| iB-TOEFL Score Ranges | Accepted/Rejected | Corresponding Remedials |
|--------------------------------|-------------------|-------------------------|
| 96-97 | Accepted | No remedials |
| [(88-89)-(94-95)] ³ | Accepted | ENL 110 |
| [71-(86-87)] ⁴ | Accepted | ENL 105 |
| [64-(69-70)] ⁵ | Accepted | ENL 002 |
| Below 64 | Rejected | |

FACULTY ADMISSION REQUIREMENTS

Faculty of Architecture, Art and Design (FAAD)

Applicants must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education.

The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)

¹ Any student enrolled in ENL 105 who scores a B or above will be automatically passed to ENL 213.

² Students are permitted to take a Math remedial in addition to this course. Any student enrolled in ENL 002 who scores a B or above will be automatically passed to ENL 110

³ This corresponds to 230-240 range computer-based.

⁴ This corresponds to 197-227 range computer-based.

⁵ This corresponds to 180-193 range computer-based.

2. SAT I or the NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FAAD in order to admit students in its majors.

Faculty of Business Administration and Economics (FBAE)

Applicants must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education.

The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FBAE in order to admit students in its majors.

Faculty of Engineering (FE)

Applicants must pass the Lebanese Baccalaureate Part II (General Sciences or Life Sciences) or its equivalent as identified by the Lebanese Ministry of Education.

The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FE in order to admit students in its majors.

Faculty of Humanities (FH)

Applicants must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education.

The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FH in order to admit students in its majors.

Applicants for the degrees of Arts in Arabic Language and Literature are also required to sit for an additional placement test in Arabic. Moreover, applicants to Translation and Interpretership are required to sit for placement tests in Arabic and French.

Faculty of Natural and Applied Sciences (FNAS)

Applicants to the FNAS majors in Biology, Nutrition & Dietetics, Environmental Sciences, Medical Lab Technology and Business Computing must pass the Lebanese Baccalaureate

Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education. Applicants to the remaining majors offered by the FNAS must pass the Lebanese Baccalaureate Part II in one of the strands of General Sciences, Life Sciences or Social Sciences & Economics, or its equivalent as identified by the Lebanese Ministry of Education.

The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FNAS in order to admit students in its majors.

Faculty of Nursing (FN)

Applicants to the FN must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education. The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FN in order to admit students in its majors..

Faculty of Political Science, Public Administration and Diplomacy (FPSPAD)

Applicants must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education. The selection depends on the following assessment model:

1. TOEFL, or Writing Section of SAT I, or EET (for NDU English proficiency requirements)
2. SAT I or NDU Entrance Test
3. Secondary School Grades

School grades (second and third secondary years) are weighted 55% and SAT I (or NDU Entrance Test) 45% for calculating the composite score required by the FPSPAD in order to admit students in its majors.

Remedial Math Courses

In some selected majors, a student may be required to take one remedial course in Mathematics (besides the English remedial course(s); see above) if, upon evaluating his/her application, he/she did not accumulate the minimum composite score required by the Faculty for admission in these majors.

Following are the selected majors along with their corresponding remedial Math courses and the minimum passing grade in each.

| Faculty | Majors | Possible Set of Remedial Math Courses | Minimum Passing Grade for Math Remedial Courses |
|---------------------------------------|---|--|--|
| Natural and Applied Sciences | Business Computing, Nutrition & Dietetics, Biology, Medical Lab Technology, and Environmental Science | MAT 105 | D |
| Natural and Applied Sciences | Other majors | MAT 113 | D |
| Engineering | All majors | MAT 113 | C |
| Business Administration And Economics | All majors | MAT 105 | D |
| Architecture, Art and Design | Architecture | MAT 113 | D |

GRADUATE ADMISSION

STATEMENT OF PURPOSE

The Graduate Studies Program at NDU aims to promote humanitarian, ethical and spiritual values, to enhance intellectual inquiry and to intensify the awareness of human integrity and solidarity. In addition, the Program seeks to develop the mental, physical and spiritual potential of its student body. NDU also seeks to enhance these values through the liberal education it offers and the career preparation that caters to the real needs of Lebanon and the region.

Admission Procedures

To be eligible for admission to a graduate program, an applicant must hold a Bachelor degree or its equivalent from an accredited institution of higher education preceded by a secondary school certificate recognized by the Lebanese Ministry of Education as equivalent to the Lebanese Baccalaureate Part II.

Admission to a graduate program at NDU is made on a semester basis according to the following table:

| Semester | Application Deadline |
|-----------------|----------------------|
| Fall Semester | May 1-31 & July 2-31 |
| Spring Semester | November 1-30 |

Only complete files will be studied. Applications submitted beyond these dates can only be taken into consideration after the approval of the Dean of the concerned faculty.

Applications for Graduate Admission are available in the Admissions Office; they may also be downloaded from the NDU Home Page (www.ndu.edu.lb). The application should include the required documents indicated on the form with a non-refundable fee of 150,000 LL and submitted to the Admissions Office. Admission requirements to graduate study are established and monitored by the concerned departments and faculties.

The Admissions Office will process applications, review credentials and issue letters of notification. The Admissions Office informs applicants in writing as soon as final action is taken. Applicants may check their admission status on the website; the status is not final until the applicant receives the letter from the Admissions Office.

Required Documents

Applicants whose undergraduate degree is from NDU must submit:

- A graduate application form
- A copy of the Bachelor degree
- An official transcript of their undergraduate record
- Two recent photographs
- Other reference letters as required by concerned faculties

Applicants from NDU are not required to take an English Test. Applicants who must sit for the EET at NDU must abide by the Examination Dates as they are specified for Undergraduate Applicants in The Admissions Guide.

Applicants whose undergraduate degree is not from NDU should submit the following documents:

- A graduate application form
- A copy of the Bachelor degree or its equivalent certified from the Ministry of Higher Education
- Official transcript(s) of records from the University (ies) attended during the last three years, and the corresponding course descriptions
- Copy of the secondary school certificate or official equivalence
- Two recent photographs
- Two letters of recommendation

English is the medium of instruction at NDU; applicants for graduate study should be able to demonstrate proficiency in the English language. Applicants from institutions where English is not the language of instruction will be required to sit for either the NDU English Entrance Test (EET) or the Test of English As a Foreign Language (TOEFL); the minimum score of either must be 600.

All documents become part of the permanent records of NDU and will not be returned.

Other Requirements

Individual Faculties retain the right to request further requirements for admission to graduate programs such as the Graduate Management Admission Test (GMAT) and the Graduate Record Examination (GRE). Other requirements may include recommendations from employer(s), auditions, interviews, and samples of the student's work or personal statements. These other admission requirements will be stated in the letters of conditional admission authorized by the concerned Faculty.

TYPES OF ADMISSION

Regular Admission

Regular Admission is granted to those applicants who have fulfilled all the undergraduate admission requirements. The minimum required cumulative Grade Point Average (GPA) is 3.0/4.0.

Conditional Admission

Applicants whose cumulative GPA at the undergraduate level ranges between 2.7/4.0 and 2.99/4.0 may be considered for conditional admission; this is determined by the concerned Faculties. Applicants must maintain a level of academic excellence expected of all graduate students and meet the graduate admission requirements. These applicants may be required to take at least 9 credit hours of undergraduate courses in the areas of identified deficiencies, and earn a minimum GPA of 3.0/4.0 in these courses to be eligible to pursue their graduate studies.

Prospective Applicants

Candidates qualify for this category if they apply to a major other than the undergraduate degree from NDU or an equivalent degree from any other recognized institution of higher education with a cumulative GPA of at least 2.7/4.0. The respective Faculty shall study the file of prospective graduate students. They may recommend supplementary undergraduate courses that the applicant must complete with a minimum cumulative GPA of 3.0/4.0 prior to consideration for admission to graduate study. Credits earned for undergraduate courses will not be counted toward the graduation requirements for the relative Masters degree.

Transfer Applicants

Applicants wishing to transfer and complete their graduate study at NDU must meet the graduate admission requirements of NDU. A complete record of all courses completed with course description must be submitted. Concerned Faculties shall evaluate and determine the transferability of academic credits in addition to the applicant's eligibility for graduate-level study at NDU.

Normally, a maximum of 9 transfer credits from previous work completed at another accredited institution of higher education is permitted upon the discretion of the Faculty Evaluation Committee. The course content and quality must correspond to the NDU course description as required for the requested major. The minimum score of each course must be "B" or its equivalent. Transfer credits are not computed in the Cumulative GPA but marked "Transfer".

International Applicants

Transcripts and degrees from foreign institutions require special evaluation and must be certified by the concerned offices. Consequently, prospective international students are advised to submit their application forms, test scores, and all other required documents at least one semester before the beginning of the semester for which they are applying.

Nondegree Applicants

Individuals seeking graduate coursework without the desire of candidacy for an advanced degree may apply and meet all requirements for admission to a graduate program as a nondegree (graduate) student.

READMISSION

Applicants who are issued a letter of acceptance to graduate study and fail to join their respective programs for two successive semesters, must reapply for admission.

ACADEMIC RULES AND REGULATIONS (UNDERGRADUATE)

STUDENT CLASSES

Students attending NDU who are not yet considered as being at the university level are classified as follows:

| | | |
|------|---------------------------|--|
| a.1. | Class | |
| | Remedial/Intensive | 0 credit |
| a.2. | Class | Number of Credits Completed (on courses of 100 level and below 200 level) |
| | Freshman | 1–30 credits |

b. Undergraduate students in the Faculties of FAAD and FE are classified as being in the 1st, 2nd, 3rd, 4th or 5th year class according to the number of credits completed as specified in their respective suggested programs.

c. Undergraduate students in the Faculties of FBAE, FH, FNAS and FPSPAD are classified as follows:

| Class | Number of Credits Completed (on courses of 200 level or higher) |
|------------------|--|
| Sophomore | 31–60 credits |
| Junior | 61–90 credits |
| Senior | 91 and more |

FULL-TIME UNDERGRADUATE DEGREE STUDENTS

Full time undergraduate degree students are those who register for at least 12 credits during the Fall or Spring semesters.

PART-TIME STUDENTS

Part time undergraduate degree students are those who register for less than 12 credits during the Fall or Spring semesters. A part-time student does not qualify for financial assistance.

SPECIAL STUDENTS OR NON-DEGREE STUDENTS

Undergraduate students who are taking courses at NDU for credits but not working toward a degree are considered Special Students or Non-Degree Students. Non-degree students shall be accepted on a semester-to-semester basis. Initial applications shall be made through the Office of Admissions and thereafter through the Office of the Registrar. Such students shall meet the academic standards required of degree students and shall neither be permitted to audit courses nor be qualified for any kind of financial aid.

TRANSFER STUDENTS

Only, transfer applications for students at the Sophomore level or above are considered for acceptance. These students must have completed at least 12 credits with a cumulative GPA of 2.0/4.0 beyond their secondary school education. Courses on which students scored C and above will be counted towards their degree, provided they are equivalent in quality to

the courses given at NDU. Nonetheless, only courses taken at NDU will be computed in the GPA.

Transfer students to the Faculties of FNAS, FBAE, FH or FPSPAD are required to complete at least 30 credits at NDU with a cumulative GPA of 2.0/4.0, and must satisfy all other graduation requirements for the degree. At the same time, transfer students to the Faculties of FAAD or FE are required to complete at least 45 credits at NDU with a cumulative GPA of 2.0/4.0 and must satisfy all other graduation requirements for the degree.

Freshman students are considered ineligible for transfer.

AUDITORS

An auditor is an individual who has been admitted to course(s) while satisfying the requirements for admission to this course as deemed appropriate. He/she is required to pay 75% of the course(s) tuition. Once an auditor is registered, he/she cannot change his/her status back to credit. Grades and credits will not be given for auditing course(s) and hence cannot be counted for enrollment certification, and for financial aid purposes.

HOURS OF CLASSES

Usually, classes are held Monday-Friday. However, some classes may be held on Saturday. During semesters, classes start at 8:00 a.m. However, some four-credit courses may start at 7:30 a.m. For summer sessions classes start at 7:30 am.

ATTENDANCE POLICY

Students should attend all classes on time. A pattern of absences, whether authorized or not, may affect a student's grade substantially. Only the Student Affairs Office validates absences. The student is, nonetheless, responsible for the material presented during his/her absence. The maximum number of absences for classes that meet on MWF is six and for those that meet on TTH and in the summer is four, (or two hours per credit course). Any student whose absences exceed the maximum limits shall automatically be unofficially withdrawn from the course, unless he or she withdraws.

EXAMINATIONS AND QUIZZES

All courses normally have written final examinations. Such examinations are not required in seminars, field work, internship programs, studio courses and senior projects, but the instructor concerned may choose to give one.

As to quizzes and progress tests, instructors shall give a minimum of two per course. If, for a legitimate reason acceptable to the instructor of the course, a student misses a quiz, he/she should arrange for a make-up with the instructor of the course within a maximum period of two weeks from the date assigned for that quiz.

Final examinations shall count for a maximum of 40% of the final grade. Those exams should be comprehensive by nature. The remaining 60% account for quizzes, progress projects, tests, term papers and other requirements as specified by the respective department. A minimum of 40% of the course evaluation should be known by students prior to the official withdrawal deadline.

Different sections of the same course must be given a common departmental final examination.

FINAL EXAMINATION MAKE-UP

If a student misses a final examination for a legitimate reason, he/she should make arrangements for a make-up examination with the instructor of the course and the chairperson of the department. If permission is granted, the student shall pay the University a make-up final examination fee of 200,000 L.L. Consequently, the final examination make-up shall be taken no later than the 8th week of the next academic semester if a grade of incomplete “I” is submitted to the registrar. In the case where a change of grade is not received by the Registrar’s Office within the set period, a grade of “F” shall be given for that course.

GRADED FINAL EXAMINATION PAPER

The graded final examination papers of a course offered during a given semester or the summer session must be submitted to the Department Chairperson concerned within 72 hours from the scheduled date of the final examination of that course. These papers must be kept at the department concerned for at least one semester along with a copy of the course syllabus, final examination and its solution.

FINAL GRADES

A course’s final grades should be submitted to the Office of the Registrar 72 hours after the scheduled date of the examination for that course. The grades should first be approved by the Department Chairperson and Faculty Dean.

RECORD BOOK OR BLUE BOOK

The original record/blue book of the courses taught by a faculty member during a given semester or the summer session must be submitted to the concerned Department Chairperson within 72 hours from the latest scheduled date of the final examination of his/her courses. This book shall be kept at the concerned department for at least one academic year, with a copy of it signed by both the concerned faculty member and his/her Department Chairperson shall be submitted to the Office of the concerned Faculty Dean.

TRANSCRIPTS

Upon request, students can obtain an official transcript or an office-use transcript from the Office of the Registrar within two working days. Fees for each copy of an official transcript are 10,000LL and for an office-use transcript 5000LL. Transcripts cannot be issued to students who have a financial account pending with the University.

CHANGE OF GRADE

Once a student’s grade for a course for which he/she is enrolled during a given semester or the summer session, is approved by the Faculty and reported and posted by the Office of the Registrar, it shall be final in the absence of justified circumstances such as evidence of human error in calculation, recording, visual oversight, or confusion in the names of students or course sections.

Under justifiable circumstances, the student may petition the Faculty Dean concerned for a change of grade within 5 working days from the posting of the final grades of the course by the Office of the Registrar. Only under **force majeure** would a student’s case be considered beyond those five days.

To change a grade, the instructor of the course should fill in and sign an official change-of-grade form, which can be obtained from the Registrar's Office. All supporting documents including the instructor's record book should be attached to the form. Once the new grade is approved by the department's Chairperson, it is forwarded to the Faculty Dean for final action and then resubmitted to the Office of the Registrar.

CHANGE OF PROVISIONAL GRADE

Changes made to the provisional grade I and PR should be done within an allotted period otherwise the Office of the Registrar will directly convert the grades to F. The *I grade* must be changed by the end of the 8th week of the following semester and the *PR grade* must be changed by the end of the following semester.

GRADES FOR REPEATED COURSES

Students must repeat courses for which they got a grade of *F*, *UW* or those courses for which they did not get the required passing grade set by the Department or Faculty concerned, in the case where these courses are required in the major. Students must repeat these courses immediately the next time they are offered. Students may also repeat a course for which they got a grade below *C*.

For a repeated course, only the last grade, whether higher or lower, will be computed into the GPA. The other grades are kept on the student's transcript. A course may be repeated only twice. A student who fails to pass a course for the third time will have to comply with the instructions of the University Academic Standards Committee. The letter *R* will be placed on the student's transcript next to the course being repeated.

GRADES UPON CHANGE OF MAJOR

Upon approval of change of major, all grades on transferable or non-transferable courses taken by a student in his/her old major/area of concentration remain part of his/her official transcripts. Unlike the transferable grades, the non-transferable ones are not computed in the student's grade-point-average for the new major and are not counted toward the total number of credits required for graduation for the new major.

SYSTEM OF GRADES

The University uses the following system of grades. This system consists of letter grades with their corresponding numerical ranges (*i.e.* percentage equivalent, and the 4.0 point maximum).

| Grade | Description | Quality Point Value | Percentage Equivalent |
|----------------|----------------|---------------------|-----------------------|
| A ⁺ | Outstanding | 4.0 | 97-100 |
| A | Excellent | 4.0 | 93 - 96 |
| A ⁻ | Very Good | 3.7 | 89 - 92 |
| B ⁺ | Good | 3.3 | 85 - 88 |
| B | Good | 3.0 | 80 - 84 |
| B ⁻ | Good | 2.7 | 77 - 79 |
| C ⁺ | Satisfactory | 2.3 | 73 - 76 |
| C | Satisfactory | 2.0 | 70 - 72 |
| C ⁻ | Passing | 1.7 | 66 - 69 |
| D ⁺ | Passing | 1.3 | 63 - 65 |
| D | Lowest Passing | 1.0 | 60 - 62 |
| F | Failure | 0.0 | 0 - 59 |

| | | |
|-----------|--------------------------|--|
| <i>UW</i> | Unofficial Withdrawal | 0.0 The grade “ <i>UW</i> ” is assigned by the instructor when a registered student has never attended a class or has ceased attending and has not submitted an official course withdrawal request to the Office of the Registrar. This grade is computed as an <i>F</i> grade in the grade-point average. |
| <i>W</i> | Official Withdrawal | The grade “ <i>W</i> ” indicates withdrawal without academic penalty. This grade is issued by the Office of the Registrar only to students submitting an official course withdrawal form by the scheduled deadline. The grade “ <i>W</i> ” is not computed in the student’s grade-point average and may not be changed to any other grade under any circumstances. |
| <i>PR</i> | Progress, Re-enroll | The grade “ <i>PR</i> ” is a provisional grade, and hence it is not computed in the student’s grade-point-average. It is used to reflect progress on continuing research efforts for the senior study or the senior research or design project until it is completed. If this provisional grade is unresolved by the end of the following semester, the Office of the Registrar will automatically convert it to the grade of “ <i>F</i> ” and it will be computed in the student’s grade-point-average. |
| <i>U</i> | Audit | The grade “ <i>U</i> ” indicates that the individual was an auditor or listener in the course. This does not have any quality point value, and hence it is not computed in the student’s grade-point-average. Neither the credits nor a written statement can be given for a class audited, and no instructor is authorized to admit anyone as an auditor to any of his/her classes unless the individual has registered as such. |
| <i>I</i> | | The grade “ <i>I</i> ” is a provisional grade, and hence it is not computed in the student’s grade-point average. It indicates that the student has for good and justified reasons not completed all course requirements, but there is a reasonable expectation that he/she will successfully complete it. If this provisional grade is unresolved by the end of the 8 th week of the following semester, the Office of the Registrar will automatically convert it to the grade of “ <i>F</i> ”, and will then be computed in the student’s grade-point average. However, students, who are out of attendance in the semester following the one in which the course was taken, have one year to complete the work. Degree candidates should be aware that an “ <i>I</i> ” grade received during the last semester in any of the courses required for graduation will automatically result in the postponement of graduation. |

GRADE-POINT AVERAGE

The grade-point-average (GPA) or index is the ratio of the total quality point values divided by the number of the credit hours attempted by the student, as shown below.

| Course Number & Designation | Grade Earned | Credit Hours Attempted | Quality Point Values | Total Quality Point Values |
|-----------------------------|-----------------------|------------------------|----------------------|----------------------------|
| ARB 211 | <i>B</i> ⁺ | 3 | × 3.3 = | 9.9 |
| BAD 425 | <i>A</i> | 4 | × 4 = | 16 |
| HUT 305 | <i>D</i> | 3 | × 1 = | 3 |
| MAT 215 | <i>F</i> | 3 | × 0 = | 0 |
| CSC 200 | <i>C</i> ⁻ | 1 | × 1.7 = | 1.7 |
| | | 14 | | 30.6 |

The GPA of the five courses would then be

$$\frac{30.6}{14} \cong 2.19$$

which is equivalent to a grade of *C*. Students are expected to know how to compute their own GPA. Courses with a grade of *W*, *U*, *PR* or *I* are not counted in computing the cumulative GPA. The same applies to all transfer courses. Hence, grades for work done at institutions other than NDU are not included in the GPA. Only courses and credits may be transferred. Thus, the cumulative GPA is an average of all the credit hours attempted by the student at NDU.

ACADEMIC STANDING

There are 4 kinds of academic standing for an undergraduate student at NDU:

Good Academic Standing:

An undergraduate sophomore student is deemed in good academic standing if his/her cumulative GPA satisfies any of the following cases:

| Cumulative GPA | # of Undergraduate Credits |
|-------------------|----------------------------|
| At least 1.5/4.0 | 1 cr. – 12 cr. |
| At least 1.75/4.0 | 13 cr. – 24 cr. |
| At least 2.0/4.0 | 25 cr. or more |

Academic Probation:

An undergraduate student will be on academic probation if his/her cumulative GPA satisfies any of the following cases:

| Cumulative GPA | # of Undergraduate Credits |
|--------------------|----------------------------|
| Less than 1.5/4.0 | 1 cr. – 12 cr. |
| Less than 1.75/4.0 | 13 cr. – 24 cr. |
| Less than 2.0/4.0 | 25 cr. or more |

Academic Suspension:

An undergraduate student placed on academic probation for three consecutive semesters will be placed on academic suspension (i.e. third probation is the suspension) irrespective of whether she/he is registered or not. If the third semester of probation happens to be the first (ie Fall) or second (ie Spring) semester of the academic year, the student is granted one more semester for the removal of suspension.

Students placed on suspension may consider the following options:

- The student may register, upon the written approval of his/her academic advisor, in a number of courses at other accredited institutions of higher education. The credits for the courses completed with a grade of “C” or better may be transferred, as appropriate, towards the requirements of his/her degree at NDU. The grades and GPA for these courses, however, shall not be transferred.

OR

- The student may petition the University Academic Standards Committee to reconsider the suspension decision. The Committee will, then, determine the final status of the student in the light of the GPA obtained:
 - If the Cum. GPA is 1.79 or lower the student will be placed on academic suspension in his/her faculty but may, nonetheless, register in another faculty at NDU following due procedure.
 - The suspension may be withheld if the Cum GPA is 1.8- 1.99. The student is given another chance to obtain good standing.

Academic Dismissal

An undergraduate student is dismissed from the University if he/she fails to maintain good academic standing either during the semester immediately following reinstatement from academic suspension or after the student had been granted permission from University Academic Standards Committee to have the suspension removed but failed to do so.

If the student’s semester GPA is at least 1.5/4.0, 1.7/4.0 or 2.0/4.0, and his cumulative GPA is still below 2.0/4.0, the student is granted another extra semester. If at the end of this semester the student still fails to be in good academic standing (cumulative GPA), he/she will be dismissed.

ACADEMIC RECOGNITION

There are two kinds of academic recognition:

1) Dean’s List:

Full time students who obtain a semester GPA of 3.20/4.00 or higher with no incomplete grades, during a given semester are placed on the Dean's List for that semester. These students are invited to attend the Dean’s Luncheon held in their honor.

2) Graduation with Distinction:

An undergraduate student with high academic achievement will graduate with:

- *Cum Laude* (Distinction), if the cumulative GPA falls between 3.20/4.0 and 3.49/4.0.
- *Magna Cum Laude* (High Distinction), if the cumulative GPA falls between 3.50/4.0 and 3.79/4.0.
- *Summa Cum Laude* (Highest Distinction), if the cumulative GPA is 3.80/4.0 or above.

Such distinctions appear on the student’s transcript and degree. A transfer undergraduate student is only eligible for these distinctions if he/she has completed at least 60 credits at NDU.

ACADEMIC DISHONESTY

Students are expected and encouraged to be honest and to maintain the highest standards of academic integrity in their academic work and assignments at the University. They shall refrain from any academic dishonesty or misconduct including; but not limited to:

- Plagiarism; that is, the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Also, paraphrasing, summarizing, as well as direct quotations are considered as plagiarism, if the original source is not properly cited.
- Cheating.
- Assisting in cheating.
- Substituting a student in the taking of an examination.
- Substituting examination booklets.
- Submitting the same work for more than one course and the like.
- Submitting papers written by others.
- Receiving or providing unauthorized help or assistance in any academic work or assignment.
- Intentional violation of program and degree requirements and regulation as established by the University.
- Dishonest reporting of computational, statistical, experimental, research, results, or the like.

Penalties of Academic Dishonesty

Committing any academic dishonesty or misconduct will definitely subject the student(s) to serious academic penalties including; but not limited to:

- Failure in an assignment or a course.
- Suspension from the University for the remainder of the semester. The student will receive from the Registrar, a notice forbidding him/her, for the specified semester to occupy any portion of the University premises, and denying him/her all University privileges, including class attendance. Suspension becomes effective immediately upon receipt of the notice. There is no refund of fees for the semester in which the action is taken, but any fees paid in advance for a subsequent semester are refunded. Following the expiration of the term of suspension, the student shall be enrolled under probation for one regular semester or Summer session.
- Suspension for additional period. The total duration of the suspension should not exceed one academic year.
- Dismissal from the University. The student will receive from the Registrar a written notice which permanently terminates his/her student status. The same policy will be followed regarding notification and the refund of fees as in the case of suspension.

Reporting Academic Dishonesty

If an instructor has reason to believe that a student has committed an act of academic dishonesty, he/she must inform the student and discuss the circumstances of the matter with him/her. The instructor shall also consult with his/her Chairperson and take the appropriate action. The Chairperson shall inform the student's advisor in writing about the accident and the action taken. The student will receive a copy of that letter. If the Chairperson believes the misconduct deserves suspension or dismissal from the University, he/she should forward the case to the Academic Standing Committee through the Dean. If the student wants to challenge the action, he/she can appeal by petitioning to the to the University Student Affairs Committee through the Registrar.

CHANGE OF MAJOR WITHIN A FACULTY

To be eligible for a change of major within the same faculty, the student must meet the requirements for admission to the new major. The student must submit a change of major request form provided by the office of the Registrar. The request for the student's admission is considered by the new department which sends a copy to the office of the Registrar for implementation.

CHANGE OF MAJOR FROM A FACULTY TO A FACULTY

A student moving into another Faculty within the university is considered as a new student by the new Faculty. The student is required to fill in a change-of-major form provided by the Office of the Registrar and signed by the Business Office and by his/her advisor. The form is to be submitted to the Office of the Registrar, which in turn will send the form to the University Admission Committee.

CHANGE OF MAJOR BY UNIVERSITY ACTION

A student will be asked to change his/her major for any of the following reasons:

- If he/she is on probation and fails at the end of a semester or summer session in two or more of his/her major and/or core courses.
- If he/she fails to pass a major course after having repeated it twice.

DEADLINE FOR SUBMISSION OF CHANGE OF MAJOR

The deadline for submission of the change of major form for both categories is:

- The last Friday of December month for the Spring semester.
- The last Friday of June month for the Fall semester.

GRADUATION REQUIREMENTS

Degree Requirements

Students are required to fulfill the following requirements in order to be eligible for a bachelor degree.

- a. Completing all required credits for the degree.
- b. Fulfilling satisfactorily all course requirements for the degree as well as remedial/intensive courses given upon admission.
- c. Fulfilling all other admission requirements.
- d. Maintaining at least a 2.0/4.0 cumulative GPA for the degree.
- e. Satisfying the residency requirements for the degree.
- f. Maintaining the required minimum cumulative GPA for the major and/or core courses required for the degree, as specified by the concerned Department.
- g. Maintaining good academic discipline.
- h. Settling all accounts with the University.

These conditions must be met together with the degree requirements in effect during the semester of the student's first registration at NDU. This shall also apply to reinstated students. However, readmitted students must meet the degree requirements in effect during the semester of their readmission, unless their readmission letter states otherwise.

Students who do not have the required cumulative GPA of 2.0/4.0 for the degree and/or the required cumulative GPA for the major/core courses required for the degree, but yet have completed all other requirements, may repeat up to 5 courses, as approved by the Academic Advisor, to meet the required numerical level(s).

Second Degree Requirements

A student with a bachelor degree may register for another degree at NDU after being accepted by the University. Such a student must:

- Satisfy all the requirements for the new degree in accordance with the statements of section I of this policy.
- Have a residency of at least two full semesters.
- Complete at least 30 credits in the new degree over and above the credits already used to satisfy the first degree with a minimum cumulative GPA of 2.0/4.0.

TEACHING DIPLOMA REQUIREMENTS

A holder of the official Lebanese Baccalaureate Part II or its equivalent will be eligible for a Teaching Diploma upon completing satisfactorily at least 18 credits beyond his/her bachelor degree with a cumulative GPA of at least 2.0/4.0.

TEACHING CERTIFICATE REQUIREMENTS

A holder of the official Lebanese Baccalaureate Part II or its equivalent will be eligible for a Teaching Certificate upon completing satisfactorily 18 credits with a cumulative GPA of at least 2.0/4.0.

GRADUATION CHECK LIST

Two semesters prior to graduation, the Office of the Registrar must submit to the concerned Academic Advisors and students a graduation list of potential candidates for graduation for verification. This list must include the following:

- The already completed requirements for the degree
- The requirements, which remain to be completed for graduation
- The cumulative GPA for the degree
- The major courses and the core courses average

Once the checking process is completed, the checked list must be returned to the Office of the Registrar to finalize the tentative graduation list and hence send it back to the Faculty for voting at the end of the student last semester.

CONFERRING OF DEGREES

Degrees are conferred three times a year at the end of the:

- Fall semester
- Spring semester
- Summer session

Students expecting to graduate must apply for graduation at the Office of the Registrar by the following deadlines:

- November 15 for the graduates of the Fall semester
- March 15 for the graduates of the Spring semester and the Summer session

Any delay in applying may delay graduation. The formal conferring of degrees by the President occurs annually at the Commencement on the second Friday of each July.

Potential Summer graduates can not participate in the ceremony of the conferring of degrees.

RESIDENCY REQUIREMENTS

Residency Requirements for Bachelor of Engineering and Bachelor of Architecture

1. A minimum of 10 semesters and a maximum of 20 semesters.
2. At least the last 45 credits must be completed at NDU, in addition to all other graduation requirements for the degree.

A student who fails to complete his/her program within these specified times, must petition the Academic Standing Committee.

PARTICIPATION IN COMMENCEMENT EXERCISES

The University encourages June graduates to participate in the Commencement exercises. Summer and Fall graduates may participate in the following commencement exercises provided they notify the Registrar's Office of their intent by mid-June at the latest.

COURSE DESIGNATION

A. Designation and Belonging

The letters preceding the course number indicate the area or subject of study to which the course belongs. The following is a designation list grouped by Departments and Faculties' affiliations.

Faculty of Architecture, Art and Design

Department of Architecture

| | | |
|-----|---|------------------------|
| ARP | - | Architecture |
| MLU | - | Landscape and Urbanism |

Department of Design

| | | |
|-----|---|----------------------------|
| IDP | - | Interior Design |
| GDP | - | Graphic Design |
| FTP | - | Fashion and Textile Design |
| MAD | - | Arts in Design |

Department of Music

| | | |
|-----|---|-----------------|
| MUA | - | Arab Musicology |
| MUE | - | Music Education |
| MUM | - | Musimediology |
| MUS | - | Musicology |

Fine Arts Programs

| | | |
|-----|---|-----------------|
| FAC | - | Arts and Crafts |
| FAP | - | Studio Arts |
| FDP | - | Studio Arts |
| PDP | - | Photography |

Faculty of Business Administration and Economics

Department of Accounting, Finance and Economic

| | | |
|-----|---|-----------------------|
| ACO | - | Accounting |
| BAF | - | Banking and Finance |
| ECN | - | Economics |
| ENR | - | Energy Economics |
| FEN | - | Financial Engineering |

Department of Management and Marketing

| | | |
|-----|---|-------------------------|
| BAD | - | Business Administration |
| HCM | - | Health Care Management |

| | | |
|-----|---|----------------------------------|
| MRK | - | Marketing |
| MGT | - | Human Resource Management |
| PRM | - | Project and Operation Management |

Department of Hotel Management and Tourism

| | | |
|-----|---|--------------------------------|
| EPM | - | Management of Event Production |
| FBM | - | Food and Beverage Management |
| TTM | - | Hotel Management and Tourism |
| HSM | - | Hotel Management and Tourism |
| HTM | - | Hospitality Management |
| RMC | - | Research Methodology |

Faculty of Engineering

Department of Civil and Environmental Engineering

| | | |
|-----|---|-------------------|
| CEN | - | Civil Engineering |
|-----|---|-------------------|

Departments of Electrical and Computer and Communication Engineering

| | | |
|-----|---|------------------------|
| EEN | - | Electrical Engineering |
|-----|---|------------------------|

Department of Mechanical Engineering

| | | |
|-----|---|------------------------|
| MEN | - | Mechanical Engineering |
|-----|---|------------------------|

Faculty of Humanities

Department of English, Translation and Education

| | | |
|-----|---|-------------------------------|
| CHI | - | Chinese |
| EDU | - | Education |
| ENL | - | English |
| FRC | - | French |
| GEM | - | German |
| INT | - | Interpretation |
| ITL | - | Italian |
| LIR | - | Literature |
| LTN | - | Latin |
| PES | - | Physical Education and Sports |
| SPA | - | Spanish |
| TRA | - | Translation |

Department of Mass Communication

| | | |
|-----|---|---------------|
| ADM | - | Advertising |
| COA | - | Communication |
| JOU | - | Journalism |

Department of Social and Behavioral Sciences

| | | |
|-----|---|----------------|
| ARB | - | Arabic |
| HUT | - | Human Thoughts |
| PHL | - | Philosophy |
| PSL | - | Psychology |
| REG | - | Religion |
| SOL | - | Sociology |

Faculty of Natural and Applied Sciences

Department of Computer Science

| | | |
|-----|---|--------------------------------|
| CSC | - | Computer Science |
| GIS | - | Geographic Information Science |

Department of Mathematics and Statistics

| | | |
|-----|---|-------------------------------|
| ACS | - | Actuarial Science & Insurance |
| MAT | - | Mathematics |

- STA - Statistics
- Department of Sciences**
- AST - Astronomy
- BIO - Biology
- CHM - Chemistry
- ENS - Environmental Science
- GEO - Geology
- HEA - Health
- MLT - Medical Laboratory Technology
- NTR - Nutrition and Dietetics
- PHS - Physics

Faculty of Nursing

- NUR - Nursing

Faculty of Political Science, Public Administration and Diplomacy

Department of International Affairs and Diplomacy

- IAF - International Affairs and Diplomacy
- INL - International Law

Department of Public Administration

- CJS - Criminal Law
- PAD - Public Administration

Department of Political Science

- AMS - American Studies
- EMS - Euro-Mediterranean Studies
- CPL - Comparative Law
- HIT - History
- NGO - Non-Governmental Organization
- POS - Political Science

B- Digits of a Course Number

The following digits are used as follows:

| First Digit | | | |
|---|-------------|---|----------------------|
| | | FN&AS, FBAE & FH | ENG, RCT, VIA |
| | 0 | Non Credit Remedial Courses | Year 0 |
| | 1 | Freshman Course | Year 1 |
| | 2 | Sophomore Course | Year 2 |
| | 3 | Junior Course | Year 3 |
| | 4 | Senior Course (Undergraduate Only) | Year 4 |
| | 5 | Courses that are considered preparatory for graduate studies. When passed, their credits should not be counted in the total of credits required for graduation and they should be completed during the first academic year. | Year 5 |
| | 6 or higher | Graduate Course | Year 6 |
| Second Digit for Undergraduate and Possibly Graduate Courses | | | |
| | 0 | Basic Level Course | |
| | 1 | Elementary Level Course | |
| | 2-4 | Intermediate Level Course. | |
| | 5 | Advanced Level Course. | |

| | | |
|--|---|---|
| | 6 | Special Topics or Practicum I |
| | 7 | Laboratory Workshop, or Practicum II |
| | 8 | Seminar or Internship. |
| | 9 | Senior Study; Senior Project, Thesis or Research Project. |
| Third Digit: Any digit ranging from 0 to 9. | | |

C- Course Number, Title and Credits

| MAT 215 | Linear Algebra I | (3.0) | 3 cr. |
|--|-------------------------|--|--|
| Official Course Code (Number Abbreviation) | Official Course Title | The first component of the above ordered pair designates the number of lecture hours/week. The second component is the number of laboratory hours/week. | Number of credits (cr) earned if course is successfully completed. |

Lecture hours/week is a period of 50 minutes duration.

Credits are based upon the number of 50 minute periods scheduled weekly during one semester or summer session. One credit signifies a minimum of either a 50-minute period of class work, or 2-3 hours of laboratory over a period of 15 weeks or its equivalent.

D- Course Prerequisite and Corequisite

A **prerequisite** is a course which must have been completed before registering for the subject course.

A **corequisite** is a course which must be completed before registering for the subject course, or a course which may be taken concurrently.

ACADEMIC RULES AND REGULATIONS (GRADUATE)

CROSS-REGISTRATION

Students enrolled at Notre Dame University may take courses at other recognized institutions of higher education.

A student registered at NDU may be permitted to cross-register if:

1. He/She expects to graduate at the end of that particular semester and the said course is not offered at NDU but is a graduation requirement.
2. The course to be taken carries the same content as that offered at NDU.
3. The student's academic advisor sends a written statement to the NDU Admissions and Registrar's Offices who in turn contact their counterparts of the concerned university to confirm the above-mentioned conditions.

Students enrolled at other recognized institutions of higher education may take courses at Notre Dame University.

Students studying at other universities and who wish to take courses at NDU must secure the following to facilitate cross-registration:

1. Written permission by the academic advisor to take specified courses at NDU (if any of the above mentioned conditions apply to the incoming student)
2. The permission of the concerned Faculty at NDU.
3. The above documents are submitted to the NDU Admissions and Registrar's Offices by their counterparts.
4. Finalize registration according to cross-registration procedures at NDU.

AUDITING

Provided that they have satisfied the admission requirements, candidates that are interested in auditing graduate courses will be issued letters of acceptance as auditors.

TUTORIALS

To meet graduation requirements, students may take courses on a tutorial basis. Registration for a tutorial course can only happen after the consent of the concerned professor and the approval of the respective faculty.

COURSE / PROGRAM CHANGES

Any change from one graduate degree to another requires students to reapply and meet the admission requirements of the requested graduate program. Required courses may be substituted upon the recommendation of the student's graduate advisor and the approval of the respective Faculty. A maximum of 9 substitute credits will be considered.

GRADES UPON CHANGE OF MAJOR

Upon the approval of change of major or area of concentration, all grades on courses taken by a student in his/her old major/area of concentration that are not transferable for the new major must remain of his/her official transcripts; but must no longer be computed in his/her grade-point average in the new major. Thus, these courses and their credits shall not be counted toward the total number of credits required for graduation for the new major.

SUPERVISION

Upon admission, students will be assigned an academic advisor who will guide and assist the student in planning a course of study. When applicable, a thesis advisor will be assigned. After consultation with the Faculty Dean, every faculty will set its own guidelines for thesis defense. Candidates are required to give a public presentation. Thereafter, the Thesis Committee will notify the Dean and schedule the final defense.

COURSES AND GRADES

Courses taken as part of a student's graduate study program fall in one of two categories, graduate or prerequisite, with different grading systems.

Graduate Level Courses

These are normally numbered 600 and above. The minimum passing grade for a graduate course is B. Students in graduate study are required to maintain a cumulative average of at least B in all courses taken for graduate credit. According to the NDU Attendance Policy, a student who is absent without excuse from more than one third of the number of sessions in any one course, or who fails to sit for scheduled examinations, or fails to fulfill required written or oral work, will be given F. Results of tutorial courses, projects, or theses will be reported as Pass (P) or Fail (F).

Prerequisite Courses

These are usually undergraduate courses, taken to make up for any particular deficiencies. They do not carry graduate credit. The minimum passing grade for a prerequisite course is B; however, a department or program may set a higher minimum passing grade.

PROBATION AND DISMISSAL

Graduate students may be placed on academic probation by the faculty graduate committee if they:

1. Fail any course taken for graduate credits,
2. Do not maintain a cumulative average of *B*.

Even though an adequate cumulative average is attained, the probation of graduate students may be removed only by action from the appropriate faculty graduate committee if:

1. Students have completed a minimum of 9 credits of graduate level courses within two consecutive semesters after being placed on probation, have passed all courses, and have obtained a cumulative average of *B*. If students fail to meet any of these conditions, they will be dismissed from the program.
2. The department or program in which students are studying recommends the removal of the probation.

The faculty graduate committee may discontinue a student from graduate study if:

1. The probation status is not removed within a period of two semesters,
2. In the opinion of the department or program, and irrespective of the grades obtained, the work of the student is deemed unsatisfactory,
3. The student fails the comprehensive examination twice, or fails the thesis defense twice.

COMPREHENSIVE EXAMINATION

Where applicable, a student must pass a comprehensive examination after completion of most of the course requirements for the degree. The concerned department will schedule the examination. The purpose of the examination is to ascertain the student's knowledge of the

field of specialization and related areas. A student who does not pass the comprehensive examination may repeat it only once after a time lapse of at least three months but only with the approval of the concerned graduate committee.

THESIS

In partial fulfillment of the requirements for the master's degree, a student must submit a thesis, when applicable, based on results of original and independent research. Except in departments or programs in which the medium of instruction is not English, the thesis must be in English.

An abstract not exceeding 350 words must be submitted with the thesis. If the thesis is in a language other than English, the abstract must be written both in that language and in English.

The concerned Department must ensure the availability of a copy of the *Thesis Manual*, which provides instructions on the preparation of theses. Its application is mandatory and theses not conforming to its requirements will not be accepted. For all matters not discussed in the manual, theses must follow the form and style described in the latest edition of K. L. Turabian, *Manual for Writers of Term Papers, Theses and Dissertations* (University of Chicago Press), or any other form specified by the department or program provided this conforms to the manual.

Copies of the thesis, unbound but ready for binding, should be submitted to the members of the thesis committee at least two weeks before the defense. Copies may be obtained by any legible and durable form of reproduction. Additional copies may be required, as specified by the concerned department or program.

Thesis Committee

The master's thesis committee should be composed of at least three members recommended by the department or program and approved by the faculty graduate committee. The proposal of the thesis topic and the selection of the advisor and the members of the thesis committee for candidates for the master's degree should have been approved by the faculty or school graduate committee at least four months before the student defends the thesis. It is advisable that the thesis committee includes one external member. This member may be from an institution other than NDU. All committee members should hold professorial ranks. The thesis committee approves the thesis topic and research program and conducts the thesis defense examination.

Thesis Defense

The thesis defense maybe open to the public and must be carried out no later than June 10, October 30, or March 1, for students who wish to graduate at the end of the summer session, the fall, or the spring semester respectively.

Pass or Fail is reported for the combined thesis and thesis defense. If fail is reported, the student may resubmit the thesis and defend it after a period of at least three months. Failure on the second attempt results in discontinuation from graduate work.

Students must be registered for the thesis or at least one course in the session in which they expect to graduate in order to present their defense.

Deposit of the Thesis in the Library

After passing the thesis defense examination, the student is required to deposit at the library two copies of the thesis. A library receipt of these copies must be delivered to the Office of the Registrar before the student is awarded the degree. The student should sign a release

form indicating whether or not the library is authorized to supply copies of the thesis to other libraries or individuals. The non-authorization option is valid for a period of two years only, after which copies of the thesis will be supplied on request.

Deadlines

| | For Graduation in | | |
|---|-------------------|----------|---------|
| | Fall | Spring | Summer |
| Deadline for approval of Thesis topic & committee | June 20 | Oct. 20 | Feb. 1 |
| Deadline for thesis defense | Oct. 30 | March 1 | June 10 |
| Deadline for deposit of Thesis at library | Nov. 10 | March 10 | June 20 |

PROVISIONS FOR THE MASTER DEGREE

In addition to satisfying the general requirements set in the preceding sections, students working towards a master’s degree must fulfill the requirements described below:

Course Requirements

Two types of Master degree programs are available:

1. A thesis based on independent research work. Students following this program are required to take a minimum of 24 graduate credit hours; a maximum of 9 credits may be in tutorial courses.
2. A non-thesis program where students are required to take a minimum of 33 graduate credit hours and should follow a course of study approved by the department or program and by the graduate committee of the faculty.

Language Requirements

Aside from English proficiency requirements, there are no special university language requirements for the master’s degree. However, individual departments and programs may set their own language requirements either as a general rule or in specific cases. The faculty graduate committee will determine examination procedures.

Residence Requirements

To meet the minimum residency requirements for the master’s degree, students must register and be in residence, as graduate students, for at least two semesters, one semester and two summers, or four summers.

All requirements for the master’s degree must be completed within a period of four years after admission to graduate study. Students attending summer sessions only must complete all requirements within a period of six summers after admission to graduate study. Extension beyond the maximum period of study requires the approval of the graduate committee of the faculty.

GRADING SYSTEM

The University uses the following grading system for the graduate programs:

| Grade | Description | Quality Points/Credits | Interval |
|----------------|---|------------------------|----------|
| A ⁺ | Outstanding | 4.0 | 100-97 |
| A | Excellent | 4.0 | 96-93 |
| A- | Skillful | 3.7 | 92-89 |
| B+ | Very Good | 3.3 | 88-85 |
| B | Good | 3.0 | 84-81 |
| B- | Reasonably Good | 2.7 | 80-77 |
| C+ | Satisfactory | 2.3 | 76-73 |
| C | Passing, but not satisfactory | 2.0 | 72-70 |
| F | Failure | 0.0 | 69-0 |
| UW | Unofficial Withdrawal | 0.0 | |
| W | Official Withdrawal | | |
| I | Incomplete | | |
| P | Passing | | |
| R | Repeat | | |
| PR | Progress, re-enroll | | |
| UP | Unsatisfactory Progress | | |
| U | Audit | | |
| I | This grade is given by an instructor only when there is reasonable expectation that a student will successfully complete course requirements. If this grade is unresolved by the eighth week of the following semester, the office of the Registrar will automatically convert it to the grade of <i>F</i> . Degree candidates should be aware that an <i>I</i> grade received during the last semester in any of the courses required for graduation will result in the delay of graduation. | | |
| PR | This grade is used to indicate progress on research for the Master's thesis or project up to time of completion, when the appropriate letter grade is entered on the transcript. | | |
| UP | This grade is used to reflect that unsatisfactory progress is being made in a Master's research project or thesis. | | |
| W | The grade <i>W</i> indicates withdrawal without academic penalty. This grade is issued by the Registrar's office to students filling in an official course withdrawal form by the scheduled deadline. The grade <i>W</i> is not counted in the grade point average and may not be changed to any other grade under any circumstances. | | |
| UW | The <i>UW</i> is assigned by the instructor when a student has never attended a class or has ceased attending and has not submitted an official course withdrawal to the Office of the Registrar. This grade is counted as an <i>F</i> in the grade point average. | | |
| U | Students have the option of auditing courses instead of receiving credits and grades for them. A <i>U</i> will appear on the student's permanent record. | | |

ATTENDANCE POLICY

Classes are held from Monday to Friday. Graduate courses are offered in the afternoon as of 4:00 P.M..

Students are expected to attend all classes and laboratory sessions. Absence, whether excused or not, does not absolve a student from the responsibility for the work done or from conforming to any announcement made during his/her absence.

Instructors are responsible for clearly informing the students in writing of the attendance requirement for each course and the consequences of poor attendance.

For legitimate reasons a student is allowed to be absent for a maximum of 6 hours per three-credit course.

ACADEMIC ADVISOR

Students are responsible for the proper completion of their academic programs. They must be familiar with the rules and regulations of Graduate Studies, as well as the general academic regulations promulgated by individual Faculties and departments. The offices of the deans and department chairpersons, in cooperation with student advisors and faculty members, endeavor to follow each student's academic progress, and students are encouraged to seek counsel whenever there is a need. If advisors are unable to satisfactorily resolve problems, they will refer students as is deemed appropriate and necessary.

ACADEMIC HONESTY POLICY

It is the expressed policy of the University that every aspect of graduate academic life, related in whatever fashion to the University, should be conducted in an absolutely and uncompromisingly honest manner by graduate students.

The University Disciplinary Committee will deal with apparent and alleged breaches of this policy.

ACADEMIC STANDARDS

Continuation in the graduate programs requires satisfactory progress toward a graduate degree. Evidence of such progress includes maintaining a 3.0/4.0 cumulative average throughout the course of graduate study. Furthermore, in order to graduate, a student must have at least a 3.0/4.0 cumulative grade point average.

Failure to obtain a G.P.A. of 3.0/4.0 for the first twelve credit hours will result in notification of probationary status. Any student on probation must remove probation at the end of the following semester provided the student enrolls in at least 6 credits. Failure to meet either of these requirements will result in suspension from the University.

A graduate student will also be suspended if he/she obtains two Fs.

WITHDRAWAL POLICIES

Leave of Absence

Graduate students may request a leave of absence from a program through written appeal to their advisors. The advisor will forward the request along with a recommendation to the Dean of the Faculty who will answer on behalf of the University. A student who does not register for courses for more than one calendar year must reapply for admission to the University and to the graduate degree program.

Withdrawal from courses

After the date of dropping and/or adding courses, students are allowed until the end of the 14th week as of the beginning of a semester to withdraw from courses. W will be inscribed on their records. No withdrawal is allowed beyond this period.

Withdrawal must be made by the deadline set for dropping a course. Late withdrawal may be accepted only in case of illness or circumstances beyond control.

APPLICATION FOR GRADUATION

Students who expect to graduate must complete and submit the Application for Graduation to the Office of the Registrar.

Degrees earned during any semester or summer will be awarded only at the following commencement exercises. Commencement is held once a year.

PARTICIPATION IN COMMENCEMENT EXERCISES

The University requires June graduates to participate in the Commencement exercises. Summer and fall graduates may participate provided they notify the Registrar's Office of their intent by mid-June at the latest.

SUMMER SESSION

The University may offer the opportunity to pursue graduate studies during the summer. Although graduate-level courses are offered during the summer session, the University does not guarantee that any particular course will be offered. A student may register for a maximum of six credit hours in the summer.

FINANCIAL AID

Each year the Notre Dame University Graduate Programs offer a number of assistantships, scholarships, and fellowships based on academic qualifications of applicants. These grants may cover all or a portion of the cost of tuition. Assistantships and Fellowship awards usually include both a tuition scholarship and a monthly stipend for services provided to the student's academic department or program. The details of such financial aid are the prerogative of the concerned Faculty Graduate Committee.

Fellowships

University fellowships for entering graduate students are awarded on the basis of scholastic excellence and adequate preparation for graduate study as displayed by academic records and letters of recommendation.

University fellowships for continuing students are awarded on the basis of the student's record since the start of the Graduate program. This includes performance in relevant coursework and research or creative activity, letters of recommendations from faculty members, and the endorsement of the graduate advisor.

University fellowships are administered through the concerned Graduate Faculty and students are nominated by graduate advisors.

Assistantships

Graduate assistantships – teaching, research, and academic – provide financial aid to outstanding students. Such students can offer the University valuable services. Students must maintain a good academic standing. In addition, all graduation requirements must be satisfactorily met.

UNDERGRADUATE REGISTRATION

ACADEMIC ADVISING

Upon admission and prior to registration, each student shall be assigned an Academic Advisor by his/her Department Chairperson, upon the approval of the Faculty Dean. The Academic Advisor shall:

- a. Advise his/her advisees to observe the basis of admissions as set in his/her letter of acceptance.
- b. Make himself/herself available to his/her advisees during office hours, and when necessary by appointment, throughout the academic year.
- c. Assist his/her advisees to properly fulfill all requirements of the degree enrolled in.
- d. Study and update the files of his/her advisees throughout his/her residency at NDU.
- e. Make his/her advisees aware of and familiar with the University academic rules, regulations and policies.
- f. Explain clearly the:
 - Registration process
 - Course offerings
 - Course substitution
 - Course prerequisite
 - Course selection
 - Full-time (part-time) credit load
 - Degree planning

and other related matters. Hence, students are encouraged to consult with their Academic Advisors on a regular basis all throughout their residency at NDU.

REGISTRATION ELIGIBILITY

An undergraduate student will be eligible for registration upon settling all previous pending issues (academic, financial, disciplinary, administrative, etc...) with the University at the concerned offices. Otherwise, he/she cannot proceed any further toward his/her registration.

REGISTRATION

The registration date for undergraduate students is assigned by the Office of the Registrar. To register, a student should

- a. Receive tuition statement from the Business Office.
- b. Pay the appropriate tuition and fees to the allotted bank(s).
- c. Prepare his/ her course schedule
- d. Register for courses; off campus (internet) or on campus (intranet): Advisor or Division of Computing Services

New students should register at the Advisor's Office

REGISTRATION BY ABSTENTIA

An NDU undergraduate student is allowed to register in abstentia (or by proxy) by some legally recognized individuals (*i.e.*, parent, sister, or the like) under justifiable reasons such as illness, being abroad, and the like. Such a student shall be entirely responsible for discrepancies in his/her proxy registration, if any.

LATE REGISTRATION

After the fifth day of classes in either the Fall semester or the Spring semester or the third day of the Summer session the late registration period shall be scheduled and its fees shall be determined. No student may be registered beyond this day for the current semester or the Summer session. During the late registration day, a student shall follow the steps of the registration, as described in section IV of this policy. Further, it shall be understood that students registering during the late registration day shall be responsible for all work assigned from the beginning of the semester or the session. They shall be also subject to the requirements of the attendance policy as of the first day of classes.

CROSS-REGISTRATION

1. An NDU undergraduate student may be allowed to cross-register a course at another institution if:
 - a. The course is not offered at NDU during the semester in which the student is expected to graduate.
 - b. The course in which the student intends to cross-register is equivalent to his/her required course at NDU.
 - c. The course does not conflict with his/her course schedule at NDU.
 - d. The student has the Cross-Registration and Registration Forms signed by his/her Department Chairperson, and Academic Advisor as well as the Office of the Registrar and the Business Office.
 - e. The student returns the appropriate Cross-Registration form(s) to NDU Registrar's Office after officially registering at the other institution.
 - f. The student has to submit an official transcript of records for his/her cross-registered course to the Office of the Registrar at NDU.
2. A non-NDU undergraduate student may be allowed to cross-register a course at NDU upon submission of a written authorization from his/her institution allowing him/her to register for this course at NDU in accordance with NDU undergraduate registration policy.

IMPROPER REGISTRATION

Only officially enrolled students in a class are allowed to attend the class. The instructor of the class should inform any non-officially enrolled student of his/her improper registration and should immediately report it, in writing, to the Office of the Registrar, and should also ask the student to immediately proceed to the Office of the Registrar for a settlement.

CHANGES IN REGISTRATION

Changes in registration become effective and official on the date the approved completed form is submitted to the Office of the Registrar, and accepted and processed, and the financial obligations resulting from these changes are settled with the Business Office.

Adding and/or Dropping Courses

A student may add or drop a course or change a section in his/her registration schedule during the add/drop day only. This can be done by:

1. Dropping or Adding by himself/herself at the Division of Computing Services or in the Advisor's Office.
2. In the Drop/Add period, two modifications are allowed by the student.

3. In case a section is closed, or a student wishes to wave prerequisites/co-requisites and the like, only during Drop/Add period he/she has to fill in a Drop/Add form to secure the concerned Dean's signature.
4. Receive his/her modified tuition statement from the Business Office.

Withdrawal From Courses

a) In accordance with the University Refund Policy, students may officially withdraw from courses without academic penalty by the late registration day. In this case no grades will be inscribed on their record. They may also withdraw any time prior to the 14th week of the Fall or Spring semesters and before the 28th day of the Summer session.. Then a grade of "W" will be inscribed on their records.

b) Withdrawal after the deadline will result in an "F" or "UW" grade on the dropped course. No withdrawal is allowed beyond this period unless the student petitions the Academic Standards Committee, after the approval of his/her instructor, due to urgent reasons. Once the petition is approved by the Academic Standards Committee, the Registrar will then be instructed by the PVP for Academic Affairs to assign the grade "W" on the dropped course(s). No credit is given for

Total Number of Withdrawals from a Course

Students are allowed to withdraw from a course twice only.

Attendance after Withdrawing

Once a student has withdrawn from a course, he/she cannot continue to attend or audit this course during *the same* semester.

Student Reinstatement

Upon return, a student with leave of absence shall petition the Office of the Registrar for reinstatement. Those students on probation who have been approved for leave of absence will remain on probation upon reinstatement. A student whose application for leave of absence has been denied may petition the University Academic Standards Committee for final action.

Dropping a Course while on Probation

A student on probation may drop any course during the probation period.

Registration in a Course with an 'I' Grade

Students may not register in a course if he/she has an incomplete grade in its prerequisite(s).

STUDENT ACADEMIC LOAD

Full-Time and Part-Time Loads

Registration in at least 12 credits for the Fall or Spring semester constitutes a full-time load for an undergraduate student. Otherwise, it constitutes a part-time load.

Maximum Load for Registration per Semester

The maximum load for registration during the Fall or Spring semester by any undergraduate student is either 16 credits or the number of credits specified in his/her suggested program for that particular semester. However, student on good academic standing can take up to 19 credits per semester provided that this number of credits does not contradict any residency requirements.

Maximum Load for Registration in the Summer Session

The maximum load for registration by any undergraduate student in the Summer session is 9 credits or less as determined by the concerned Faculty.

Maximum Load for Students on Probation

Students who are on probation may register for a maximum of 13 credits per semester of which at least 9 credits for courses that must be repeated, if any.

Maximum Load for Students with Incomplete(s)

Students who have two or more incomplete grades from a previous semester or the Summer session may register for a maximum of 13 credits per semester unless these courses are senior projects or the like.

Maximum Load for Students with Cross-Registration

The combined load for students with both registration at NDU and cross-registration in another institution must not exceed the maximum load stated above.

TUITION AND FEES

Notre Dame University is a non-profit institution. Tuition and fees paid by students represent a small percentage of the full cost of a student's education. The deficit is covered by income from gifts, grants and donations from foundations, alumni and friends of the University. The fees cover applications, membership in National Social Security Fund (NSSF), activities, Yearbook and Student Association, and Insurance. Membership of Lebanese students in the NSSF is mandatory by law. Thus prior to registration, students are urged to follow the instructions given by the Students Affairs Office concerning the clearance for NSSF.

Tuition

| | | |
|---|------|-----------------------|
| Tuition/Credit Hour (Engineering or Architecture) | L.L. | 375,000 |
| Tuition /Credit Hour (All Others) | L.L. | 320,000 |
| Tuition /Credit Hour (Auditing) | L.L. | 75% of credit tuition |

Fees

| | | |
|--|------|-----------------|
| Admission Application | L.L. | 100,000 |
| Entrance Examination | L.L. | 75,000 per exam |
| Late Registration | L.L. | 100,000 |
| Petition | L.L. | 5,000 |
| Change of Major | L.L. | 100,000 |
| Make-up Final Examination Fee/Incomplete | L.L. | 200,000 |
| Transcript (Official Copy) | L.L. | 10,000 |
| Transcript (Student Copy) | L.L. | 5,000 |
| Library Fee/Book /Day (Late Returns) | L.L. | 1,500 |
| Graduation | L.L. | 50,000 |
| Medical Insurance | L.L. | 25,000 |
| Academic Fees | L.L. | 145,000 |
| Smart ID Card (when applicable) | L.L. | 25,000. |
| NSSF Fees (when applicable) | L.L. | 90,000 |

Because of the rising cost of higher education, universities are facing severe financial problems. NDU reserves the right to change tuition, fees and expenses at any time without prior notice.

A student may not complete registration, graduate or receive any transcripts of records until all dues are paid.

REFUND POLICY

Contracts with faculty members and provisions for education are made by the University in advance for the entire year. Accordingly, if a student withdraws for justifiable reasons after final registration, refund of tuition will be made according to the following schedule of withdrawals:

- Before classes begin, during drop/add period, 75% of the tuition is refunded.
- During the first week of classes, 50% of the tuition is refunded.
- Tuition is not refunded after the first week of classes.
- Refund policy does not apply during summer session. No refund of tuition is made for any withdrawal during summer session.

GRADUATE REGISTRATION

REGISTRATION PROCESS

A registration guide is distributed to every graduate student before the period assigned for registration. Students are advised to read the registration guide and this section of the catalog carefully. Registration involves the following steps:

Payment of Fees: The first step in registration is the payment of fees. Every registrant must pay the fees in full, or make arrangement for payment two weeks before the beginning of registration. Regardless of the manner of payment, every student must clear his/her registration with the Business Office. Outstanding balances must be settled in full before a student is allowed to register. Those who fail to honor the terms of the arrangement of payment of fees will be denied the privilege of future arrangements.

Consultation with Academic Advisors: Each student is assigned an academic advisor. With a proposed semester course schedule, the student proceeds to his/her advisor for consultation and the finalization of the selected courses. Students should consult with their academic advisors in the places assigned them for registration. The selection of courses is initially undertaken by the registrant himself/herself. Registration in absentia or by proxy is not permitted. Continuing students should check the course requirements as prescribed for every major, and compare them with the ones they have already completed. In the light of this comparison, they should check the course offerings for the given semester and then fill in their semester course schedules. New students must make sure that all required documents, particularly those mentioned in the letter of admission, are submitted to the Registrar's Office. They should also have in hand their letters of admission and identity cards or passports to present them to their advisors. Students should follow the steps indicated in the registration guide.

COURSE LOAD

A full-time graduate student must register for twelve credits per semester. Students registered for less than twelve credits per semester are considered part-time graduate students. Graduate students cannot register for more than six credits in the Summer session.

AUDITING

Students may register for courses on an auditing basis. Courses in which a student is so enrolled carry no credit but are listed in the student's transcript as audit. The fee charged by the university shall be 75% of the fee paid by regular students. Student auditors should fulfill the same admission conditions as any other regular student.

DISCLOSURE OF STUDENTS' RECORDS

The University does not disclose information and academic records of any student except with his/her prior consent. Exceptions to this principle are made only in compliance with judicial orders and health or safety emergency.

TUITION AND FEES

Notre Dame University is a non-profit institution. Tuition paid by students represents a small percentage of the full cost of a student's education. The deficit is covered by income from gifts, grants and donations from foundations, and alumni and friends of the

University. The fees cover applications, Yearbook and Student Association, and Insurance and late registration.

Tuition

| | | |
|---------------------------------------|------|-----------------------|
| Tuition per Credit Hour | L.L. | 420,000 |
| Auditing per Credit Hour per Semester | L.L. | 75% of credit tuition |

Fees

| | | |
|--|------|---------|
| Admission Application | L.L. | 150,000 |
| Entrance Examination (when applicable) | L.L. | 75,000 |
| Late Registration | L.L. | 100,000 |
| Petition | L.L. | 5,000 |
| Change of Major | L.L. | 100,000 |
| Make-up Final Examination Fee/Incomplete | L.L. | 200,000 |
| Transcript (Official Copy) | L.L. | 10,000 |
| Transcript (Student Copy) | L.L. | 5,000 |
| Library Fee/Book /Day (Late Returns) | L.L. | 1,500 |
| Graduation | L.L. | 50,000 |
| Medical Insurance | L.L. | 25,000 |
| Academic Fees | L.L. | 145,000 |
| Smart ID Card (when applicable) | L.L. | 25,000. |
| NSSF Fees (when applicable) | L.L. | 90,000 |

Because of the rising cost of higher education, universities are facing severe financial problems. NDU reserves the right to change tuition fees and expenses at any time without prior notice.

A student may not complete registration, graduate or receive a transcript of record until all fees are paid.

REFUND

Contracts with faculty members and provisions for education are made by the University in advance for the entire year. Accordingly, if a student withdraws for justifiable reasons after final registration, refund of tuition fees will be made according to the following schedule of withdrawals:

- Before classes begin, during drop/add period, 75% of the tuition is refunded.
- During the first week of classes, 50% of the tuition is refunded.
- During the course of a semester, tuition is not refunded after the first week of classes.
- Refund policy does not apply during summer session. No refund .of tuition is made for any withdrawal during summer session.

GER, FRESHMAN PROGRAM AND DEGREES

GENERAL EDUCATION REQUIREMENTS (GER)

A set of 27 credits in interdisciplinary courses, called General Education Requirements (GER), as a foundation for a liberal arts and basic science education. These GER shall be distributed as follows:

Communication Skills

6 credits in sophomore English

Computer Skills

3 credits in sophomore Computer Science

Cultural Studies

9 credits in Arabic, Western Literature, Religion, Philosophy, Cultural Sequence, Art, Music, etc. A religion course shall always part of any 9 credits of cultural studies.

Social Science Studies

3 credits in Sociology, Psychology, Political Science, History, Economics, Anthropology, etc.

Basic Science Studies

6 credits in Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc.

FRESHMAN PROGRAM

1. A student entering the Freshman Program at NDU as Freshman is required to complete a minimum of 30 credits. He/She has to follow either the Arts or the Science program.
2. The Freshman Program includes courses from the following areas: (Arts and Science)
 - Humanities and Social Sciences 9crs.
(a minimum of 3crs. in each area)
 - Natural Sciences and Mathematics 6crs.
(a minimum of 3 crs. in Natural Sciences)
 - Freshman students cannot be considered sophomore students unless they have completed 30 crs. of Freshman courses successfully.
 - In exceptional cases, the Equivalency Committee in the Lebanese Ministry of Education will give the permission to the freshman student who misses one course or 5 credits from the freshman requirements, to register in sophomore courses, on condition he/she registers for the missing freshman course and passes it successfully
 - Freshman students cannot register in sophomore courses without having this prior authorization.

- According to the regulations of the Lebanese Ministry of Education the above mentioned areas include the following subjects:
 - a. Humanities: Languages/Literature/Philosophy/History
 - b. Social Sciences: Psychology-Sociology-Anthropology-Economics-Geography-Business Administration-Management-Political Studies.
 - c. Natural Sciences: Biology-Chemistry-Physics-Geology-Astronomy Nutrition.
 - d. Mathematics
 - e. Computer Science
 - f. Arts: Art-Music-Drama (not to exceed 3 credits)

DEGREES OFFERED

Faculty of Architecture, Art & Design (FAAD)

| | |
|---|-------------|
| Bachelor of Architecture | 182 credits |
| ** Bachelor of Arts in Interior Design | 136 credits |
| ** Bachelor of Arts in Graphic Design..... | 102 credits |
| <i>Typography Concentration</i> | 102 credits |
| <i>Multimedia Concentration</i> | 102 credits |
| <i>Information Concentration</i> | 102 credits |
| ** Bachelor of Arts in Fashion Design..... | 102 credits |
| Bachelor of Arts in Music | |
| <i>Musicology Concentration</i> | 124 credits |
| <i>Music Education Concentration</i> | 124 credits |
| <i>Musimediology Concentration</i> | 124 credits |
| <i>Arabic Musicology Concentration</i> | 124 credits |
| Master of Architecture | |
| <i>Landscape Urbanism Concentration</i> | 36 credits |
| Master of Arts in Design..... | 36 credits |
| Master of Arts in Music | 36 credits |

Faculty of Business Administration and Economics (FBAE)

| | |
|--|-------------|
| ** Bachelor of Business Administration | |
| <i>Management Concentration</i> | 106 credits |
| <i>Accounting Concentration</i> | 106 credits |
| <i>Banking & Finance Concentration</i> | 106 credits |
| <i>Financial Engineering Concentration</i> | 106 credits |
| <i>Energy Economics Concentration</i> | 106 credits |
| <i>Economics Concentration</i> | 106 credits |
| <i>Marketing Concentration</i> | 106 credits |
| <i>Int'l Business Management Concentration</i> | 107 credits |
| <i>Human Resources Management Concentration</i> | 106 credits |
| <i>Health Care Management Concentration</i> | 106 credits |
| <i>Distribution and Logistics Management Concentration</i> | 106 credits |
| ** Bachelor of Hotel Management and Tourism | |
| <i>Food & Beverage Concentration</i> | 103 credits |
| <i>Hospitality Management Concentration</i> | 103 credits |
| <i>Travel & Tourism Concentration</i> | 103 credits |
| <i>Management of Event Production Concentration</i> | 103 credits |
| ** Master of Business Administration (M.B.A.) | |
| <i>Economics Concentration</i> | 39 credits |
| <i>Human Resources Management Concentration</i> | 39 credits |
| <i>Project & Operations Management Concentration</i> | 39 credits |
| <i>Management & Strategy Concentration</i> | 39 credits |
| <i>Hospitality Management Concentration</i> | 39 credits |
| <i>Finance Concentration</i> | 39 credits |
| <i>Marketing Concentration</i> | 39 credits |
| Master of Science in International Business (MBA-MIB) with Bordeaux Business School | |

Faculty of Engineering (FE)

| | |
|--|-------------|
| Bachelor of Engineering in Civil Engineering | 150 credits |
| ** Bachelor of Engineering in Computer Communication Engineering | 150 credits |

| | |
|---|-------------|
| * Bachelor of Engineering in Electrical Engineering | 150 credits |
| Bachelor of Engineering in Mechanical Engineering | 150 credits |

Faculty of Humanities (FHUM)

| | |
|--|-------------|
| ** Bachelor of Arts in Communication Arts - <i>Radio/TV Concentration</i> | 106 credits |
| * Bachelor of Arts in Communication Arts - <i>Journalism Concentration</i> | 104 credits |
| ** Bachelor of Arts in Advertising & Marketing | 105 credits |
| * Bachelor of Arts in Psychology | |
| <i>Clinical Concentration</i> | 106 credits |
| <i>Educational Concentration</i> | 106 credits |
| <i>Industrial Concentration</i> | 106 credits |
| Bachelor of Arts in English Language..... | 102 credits |
| ** Bachelor of Arts in Translation & Interpretation..... | 108 credits |
| * Bachelor of Education | |
| <i>Early Childhood Concentration</i> | 105 credits |
| <i>Learning Disabilities Concentration</i> | 105 credits |
| <i>Education of the Handicapped Concentration</i> | 105 credits |
| <i>Education of the Gifted Concentration</i> | 105 credits |
| <i>School Counseling Concentration</i> | 105 credits |
| Bachelor of Arts in Arabic Language & Literature | 103 credits |
| Bachelor of Arts in Physical Education & Sport | 105 credits |
| ** Teaching Diploma in English | 18 credits |
| ** Teaching Diploma in Mathematics | 18 credits |
| ** Teaching Diploma in Sciences | 18 credits |
| ** Teaching Diploma in Social Sciences | 18 credits |
| ** Teaching Diploma in Arabic Literature | 18 credits |
| ** Teaching Certificate | 18 credits |
| Master of Arts in English Language & Literature | 36 credits |
| Master of Arts in Arabic Language & Literature | 30 credits |
| Master of Arts in Translation/Interpretation | 36 credits |
| Master of Arts in Media Studies | |
| <i>Electronic Media</i> | 39 credits |
| <i>Journalism</i> | 39 credits |
| <i>Advertising</i> | 39 credits |
| Master of Arts in Education..... | 33 credits |
| <i>School Management and Educational Leadership Concentration</i> | 33 credits |
| <i>Special Education Concentration</i> | 33 credits |
| <i>Educational Technology Concentration</i> | 33 credits |

Faculty of Natural and Applied Sciences (FNAS)

| | |
|--|-------------|
| ** Bachelor of Science in Computer Science | 104 credits |
| * <i>Computer Information Systems Concentration</i> | 103 credits |
| * <i>Computer Graphics and Animation Concentration</i> | 108 credits |
| * Bachelor of Science in Actuarial Science & Insurance | 112 credits |
| * Bachelor of Science in Mathematics | 103 credits |
| <i>Pure Mathematics Concentration</i> | 103 credits |
| <i>Mathematics Education Concentration</i> | 103 credits |
| <i>Computational Mathematics Concentration</i> | 103 credits |
| ** Bachelor of Science in Biology | 102 credits |
| ** <i>Biotechnology Concentration</i> | 102 credits |
| * <i>Environment Biology Concentration</i> | 102 credits |
| ** Bachelor of Science in Environmental Science | 104 credits |

| | |
|---|-------------|
| Bachelor of Science in Chemistry | 98 credits |
| <i>Industrial Concentration</i> | 98 credits |
| <i>Pharmaceutical Concentration</i> | 98 credits |
| <i>Environmental Concentration</i> | 98 credits |
| ** Bachelor of Science in Nutrition and Dietetics | 94 credits |
| Bachelor of Science in Applied Statistics | 91 credits |
| ** Bachelor of Science in Business Computing | 91 credits |
| Bachelor of Science in Medical Laboratory Technology | 103 credits |
| Bachelor of Science in Geographic Information Systems | 91 credits |
| * Bachelor of Science in Physics | 95 credits |
| Master of Science in Computer Science | 30 credits |
| * <i>Computer Information Systems Concentration</i> | 30 credits |
| * Master of Science in Mathematics | 33 credits |
| <i>Pure Mathematics Concentration</i> | 33 credits |
| <i>Applied Mathematics Concentration</i> | 33 credits |

Faculty of Nursing (FN)

| | |
|--------------------------|-------------|
| Bachelor of Nursing..... | 112 credits |
|--------------------------|-------------|

Faculty of Political Science, Public Administration, And Diplomacy (FPSPAD)

| | |
|--|-------------|
| ** Bachelor of Arts in Political Science | 105 credits |
| ** <i>American Studies Concentration</i> | 105 credits |
| * <i>Euro-Mediterranean Studies Concentration</i> | 105 credits |
| ** <i>NGOs Concentration</i> | 105 credits |
| ** Bachelor of Arts in International Affairs & Diplomacy | 105 credits |
| ** Bachelor of Arts in Public Administration | 105 credits |
| * <i>Criminal Justice Concentration</i> | 105 credits |
| * Master of Arts in Political Science | 36 credits |
| * <i>NGOs Concentration</i> | 36 credits |
| * <i>Comparative Law Concentration</i> | 36 credits |
| * Master of Arts in International Affairs & Diplomacy | 36 credits |
| * <i>International Law Concentration</i> | 36 credits |
| * Master of Arts in Public Administration | 36 credits |

Note: ** Offered at The North Lebanon Campus and The Shouf Campus.

**FACULTY OF
ARCHITECTURE, ART
AND DESIGN
(FAAD)**

Mr. Habib Melki, *Acting Dean*

DEPARTMENT OF ARCHITECTURE

Mr. Jean-Pierre El Asmar, *Chairperson*

DEPARTMENT OF DESIGN

Mrs. Linda Selwood Choueiri, *Chairperson*

DEPARTMENT OF MUSIC

Rev. Prof. Elias Kesrouani, *Chairperson*

FACULTY DIRECTORY

Office of the Dean

Yellow Building, 3rd Floor, Room HB 311
Tel: 09–218–950/51/52 Extension 2073
e-mail: hmelki@ndu.edu.lb
faad@ndu.edu.lb

Department of Architecture

Yellow Building, 3rd Floor, Room HB 303
Tel: 09–218–950/51/52 Extension 2065
e-mail: jasmar @ndu.edu.lb

Department of Design

Yellow Building, 3rd Floor, Room HB 301
Tel: 09–218–950/51/52 Extension 2064
E-mail: lchoueiri@ndu.edu.lb

Department of Music

Yellow Building, 3rd Floor, Room HB 346
Tel: 09–218950/51/52 Extension 2190
e-mail: ekesrouani@ndu.edu.lb

FACULTY OF ARCHITECTURE, ART AND DESIGN (FAAD)

LIST OF FULL-TIME FACULTY MEMBERS

Professors

Kesrouani, Rev. Dr. Elias, Diplôme de Docteur, 1989, *Musicologie*, Sorbonne Paris IV, France

Associate Professors

Haddad, Robert, Master of Fine Arts, 1980, University of Pennsylvania, USA

Younes, Farid, Ph.D., 1997, *Aménagement*, Université de Montréal, Québec, Canada

Senior Lecturers

Choueiri, Linda Selwood, Master of Science in Supervision & Administration in the Visual Arts, 2000, Parsons School of Design / Bank Street College, USA

El Asmar, Jean-Pierre, Laurea Di Dottore in Architettura, 1991, Università Degli Studi Di Firenze, Italy

El-Hage, Gabriel, M. Urb., 1992, *Urbanisme*, Université de Montréal, Québec, Canada

Gabriel, Nicolas, Diplôme D'Etudes Supérieur Spécialisé en Urbanisme, 2000, Université Libanaise, Liban

Melki, Habib, Master of Architecture, 1985, Ball State University, USA

Zaccour, Danielle, Diplôme d'Etudes Supérieures en Arts Plastiques, 1991, Académie Libanaise des Beaux-Arts, Liban

Lecturers

Bechara, André, Master of Arts in Design, 2007, Notre Dame University – Louaize, Lebanon. Bachelor of Fine Arts, 1991, Parsons School of Design, USA

Daghfal, Graziella, Master of Arts in Design, 2002, Middlesex University, UK

Kortbawi, John, Post-Graduate Diploma in Advanced Typographic Design, 1977, London College of Printing, UK

Matta, Nadim, Master of Arts, 1999, *Typographic Studies*, London Institute/London College of Printing, UK

Mikhael, Diane, Master of Arts in Design, 2000, Middlesex University, UK

Instructors

Nasr, Noel, Master of Arts in Photography, 2006, University of Kent, UK

Co-Academics

Bteich, Chady, Master of Architecture, 2007, *Landscape Urbanism*, Notre Dame University, Lebanon

Majdalani, Roula, Diplome d'Etudes Superieures, 1985, *Arts Plastiques*, Académie Libanaise des Beaux-Arts, Lebanon

Staff Members

Dib, Adelle, Lauréate Technique, *Secrétaire administrative*, 1988, Collège et Lycée Technique de l'Annonciation, Liban, *Secretary*

El-Haddad, Nicolas, English Language and Computer Science Studies, 1989, Institut de l'Essor, Sin El Fil, Liban,, and 1997, American Lebanese Language Center, Sin El Fil, Lebanon, *Faculty Technician*

Girgis, Elsie, B.A., 1999, *Interior Design*, Notre Dame University, Lebanon, *Secretary*

Haddad, Liliane, Specialization Degree, 1983, *System Analyst*, The Lebanese Establishment for Commercial Sciences, Lebanon, *Photography Lab Assistant*

Sarkis, Diane, Secretariat, 1976, Computer and Management College, Lebanon, *Secretary*

Sfeir, Joanna, Diplôme D'Arts Graphiques et Publicité, 1997, Université Saint Esprit-Kaslik, Liban, *Administrative Assistant*

FACULTY OF ARCHITECTURE, ART AND DESIGN (FAAD)

Acting Dean: *Mr. Habib Melki*

Administrative Assistant: *Mrs. Joanna Sfeir*

AIMS

The overall aim is to provide a comprehensive and flexible range of programs in response to the educational and professional needs of the local community, the region and national and international demand and to secure the opportunity for personal and professional development in any of the following areas: Architecture, art or design. In more specific terms:

- To help individuals develop their creative, intellectual and technical abilities and enhance their expertise to make an informed contribution to the cultural, technological, social and economic needs of society in general.
- To foster fundamental learning and research skills coupled with an understanding of the historical, cultural, social and commercial arena within which those engaged in architecture, arts and design operate.
- To equip individuals for an array of career paths and changes in employment patterns, thus promote ingenuity, adaptability and mobility.
- To enable students at all levels to deal flexibly with varied problems and tasks and technologies.

Objectives

On completion of their studies, the students are expected to:

- Be articulate, informed graduates who have knowledge and understanding of the arts and design in general and their chosen discipline in particular;
- Demonstrate the ability to think creatively, to conceptualize, plan and apply an inventive approach in resolving formal and technical issues;
- Have acquired a knowledge and understanding of materials, processes and technologies through involvement in theory and practice;
- Have developed the critical skills necessary to analyze and understand the cultural and social context of arts and design practice and an appreciation of cultural diversity;
- Demonstrate interpersonal skills and the ability to work independently or collaboratively within a group;
- Be able to effectively communicate ideas, information and argument in written, oral and visual forms;
- Have an awareness of the needs of the profession, the community and the economy and be responsive to a wide range of social and economic needs;
- Have an understanding of professional responsibility and accountability;
- Have acquired the specialist knowledge to enable effective contribution to commerce, industry or research;
- Maintain a commitment to continuing professional development and lifelong learning.

Departments and Programs

The following departments and programs constitute the Faculty of Architecture, Art and Design:

- Department of Architecture
- Department of Design
- Department of Music

Degrees

The Department of Architecture offers an undergraduate program leading to the degree of:

- Bachelor of Architecture (182 credits)

and a graduate program leading to the degree of:

- Master of Architecture in Landscape Urbanism (36 credits)

The Department of Design offers undergraduate programs leading to the degrees of:

- BA in Graphic Design - Typography concentration (102 credits)
- BA in Graphic Design - Multimedia concentration (102 credits)
- BA in Graphic Design - Information concentration (102 credits)
- BA in Interior Design (136 credits)
- BA in Fashion Design (102 credits)

and a graduate program leading to the degree of:

- Master of Arts in Design (36 credits)

The Department of Music offers undergraduate programs leading to the degree of:

- BA in Music - Musicology concentration (124 credits)
- BA in Music - Music Education concentration (124 credits)
- BA in Music - Musimediology concentration (124 credits)
- BA in Music - Arabic Musicology concentration (124 credits)

and a graduate program leading to the degree of:

- Master of Arts in Music (36 credits)

Departmental Admission Requirements:

In addition to the University admission requirements, prospective candidates must complete any remedial course(s) the first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to their bachelor degree in the Faculty of Architecture, Art and Design.

DEPARTMENT OF ARCHITECTURE

Chairperson: *Mr. Jean-Pierre El Asmar*

Secretary: *Mrs. Diane Sarkis*

Associate Professor

Younes, Farid, Ph.D., 1997, Université de Montréal, Québec, Canada.

Aménagement

Senior Lecturers

El Asmar, Jean-Pierre, Laurea Di Dottore in Architettura, 1991, Università Degli Studi Di Firenze, Italy

El-Hage, Gabriel, M.Urb., 1992, Université de Montréal, Québec, Canada

Urbanisme

Gabriel, Nicolas, Diplôme D'Etudes Supérieur Spécialisé en Urbanisme, 2000, Université Libanaise, Liban

Melki, Habib, Master of Architecture, 1985, Ball State University, USA.

The Degree of Bachelor of Architecture

Program Description

The BA in Architecture program, offered by the Department of Architecture of the FAAD, aims at:

- Providing the learner with the proper exposure to enhance reflective approach to design and foster students' critical thinking.
- Developing the intellectual and theoretical backgrounds of the students through the study of ancient, modern and contemporary history and theories of architecture.
- Increasing student's awareness with respect to environmental and social issues. This concern mainly focuses on the interrelated influence between the human being, the society, and architecture.
- Contributing in building-up an architectural epistemology.
- Preparing the learner for professional practice and post-graduate studies.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete all remedial courses, Math and/or English, if any, during their first year at NDU. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Architecture and other majors of the Faculty of Architecture, Art & Design.

Graduation Requirements

To obtain the degree of bachelor of architecture, a student must complete a total of 182 credits with an overall grade-point average of at least 2.0/4.0 and a minimum cumulative grade point average of 2.3/4.0 in the major requirements. In addition, all major courses must be successfully completed with a minimum grade of C- . These 182 credits are divided into:

Degree Requirements (182 credits)

General Education Requirements **27 cr.**

The GER are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr.

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Architecture, Art, Design, Music, etc... 15 cr.

Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc... 6 cr.

Core Requirements **6 cr.**

FAP 211, GDP 212

Major Requirements **143 cr.**

ARP 213, ARP 221, ARP 222, ARP 223, ARP 224, ARP 225, ARP 233, ARP 301, ARP 311, ARP 316, ARP 317, ARP 322, ARP 324, ARP 325, ARP 327, ARP 328, ARP 422, ARP 423, ARP 424, ARP 425, ARP 433, ARP 435, ARP 438, ARP 439, ARP 444, ARP 446, ARP 551, ARP 552, ARP 553, ARP 554, ARP 555, ARP 556, ARP 557, ARP 561, ARP 562, ARP 563, ARP 568, ARP 590, ARP 591, ARP 593

Choose one course from the following Electives I: ARP 564, ARP 565, ARP 566, ARP 567, ARP 568, ARP 569

Choose one course from the following Electives II: ARP 581, ARP 582, ARP 583, ARP 584, ARP 585, ARP 586

Free Electives **6 cr.**

Students are also expected to complete 6 credits of free electives. The 3-credit course in religion must be included if it has not been already taken within the GER.

Bachelor of Architecture
Suggested Program (182 Credits)

Year I

Fall Semester I (15 Credits)

| | | | |
|-----|-----|------------------------|-------|
| FAP | 211 | Drawing I | 3 cr. |
| GDP | 212 | Design Principles I | 3 cr. |
| ARP | 213 | Basic Technical Skills | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| ARP | 221 | Architectural Sketching and Rendering | 3 cr. |
| ARP | 222 | Principles of Architectural Design | 4 cr. |
| ARP | 223 | Descriptive Geometry | 3 cr. |
| ARP | 225 | Statics of Architecture | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (8 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| ARP | 233 | 3D Architectural Survey | 2 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II:

Fall Semester II (17 Credits)

| | | | |
|-----|-----|------------------------|-------|
| ARP | 311 | Architectural Design I | 5 cr. |
| ARP | 301 | Technical Drawing II | 3 cr. |
| ARP | 317 | Building Technology I | 3 cr. |
| ARP | 316 | Strength of Materials | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (17 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ARP | 322 | Architectural Design II | 5 cr. |
| ARP | 324 | History of Architecture II | 3 cr. |
| ARP | 328 | Building Technology II | 3 cr. |
| ARP | 224 | Applied Architectural Design I | 3 cr. |
| ARP | 327 | Structural Analysis | 3 cr. |

Summer Session II (8 Credits)

| | | | |
|-----|-----|---------------|-------|
| ARP | 423 | Acoustics | 2 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Year III:

Fall Semester III (18 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| ARP | 433 | Architectural Design III | 6 cr. |
| ARP | 435 | History of Architecture III | 3 cr. |
| ARP | 438 | Reinforced Concrete Design | 3 cr. |
| ARP | 439 | Mechanical and Sanitary Systems | 3 cr. |
| ARP | 325 | Applied Architectural Design II | 3 cr. |

Spring Semester III (17 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| ARP | 444 | Architectural Design IV | 6 cr. |
| ARP | 446 | History of Architecture IV | 3 cr. |
| ARP | 424 | Bio-climatic Architecture | 3 cr. |
| ARP | 422 | Lighting Design & Electrical Design | 2 cr. |
| ARP | 554 | Surveying & Field Surveying | 3 cr. |

Summer Semester III (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year IV:**Fall Semester IV (18 Credits)**

| | | | |
|-----|-----|---------------------------------|-------|
| ARP | 555 | Architectural Design V | 6 cr. |
| ARP | 557 | Architectural Theories | 3 cr. |
| ARP | 551 | Construction Detailing Studio I | 3 cr. |
| ARP | 561 | Urbanism I | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester IV (18 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| ARP | 556 | Architectural Design VI | 6 cr. |
| ARP | 552 | Construction Detailing Studio II | 3 cr. |
| ARP | 562 | Urbanism II | 3 cr. |
| ARP | 568 | Social Architecture | 3 cr. |
| ARP | 563 | Building Rules & Regulations | 3 cr. |

Summer Session IV (4 Credits)

| | | | |
|-----|-----|------------------------|-------|
| ARP | 590 | Senior Study | 2 cr. |
| ARP | 425 | Architectural Practice | 2 cr. |

Year V:**Fall Semester V (12 Credits)**

| | | | |
|-----|-----|-------------------------------------|-------|
| ARP | 591 | Senior Project I | 6 cr. |
| ARP | 553 | Specifications & Quantity Surveying | 3 cr. |
| ARP | — | Elective I ¹ | 3 cr. |

Spring Semester V (8 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| ARP | 593 | Senior Project II | 6 cr. |
| ARP | — | Elective II ² | 2 cr. |

Old / New Courses Equivalent or Substitute

| Old Course | | | New Course (equivalent) | | |
|------------|-----------------------------------|------|-------------------------|-------------------------------------|------|
| CSC 273 | Computer Aided Architectural D. | 3cr. | ARP 224 | Applied Architecture Design I | 3cr. |
| CSC 274 | Software Package for Architects I | 3cr. | ARP 325 | Applied Architecture Design II | 3cr. |
| CEN 308 | Statics for Architects | 3cr. | ARP 225 | Statics for Architecture | 3cr. |
| CEN 309 | Mechanics of Materials for A. | 3cr. | ARP 316 | Strength of Materials | 3cr. |
| CEN 419 | Structures for Architects | 3cr. | ARP 327 | Structural Analysis | 3cr. |
| CEN 439 | Concrete Design for Architects | 3cr. | ARP 438 | Reinforced Concrete Design | 3cr. |
| ARP 421 | Architectural Model Making | 2cr. | ARP 233 | 3D Architectural Survey | 2cr. |
| FAP 221 | Drawing II | 3cr. | ARP 221 | Architectural Sketching & Rendering | 3cr. |
| GDP 222 | Design Principles II | 3cr. | ARP 222 | Principles of Architectural Design | 4cr. |
| MAT 213 | Calculus 3 | 3cr. | ARP 568 | Social Architecture | 3cr. |
| PHS 203 | General Physics | 3cr. | ARP 424 | Bioclimatic Architecture | 3cr. |
| GEO 202 | Geology for Architects | 2cr. | ARP 425 | Architectural Practice | 2cr. |

¹Electives I: Choose one of the followings: ARP 564, ARP 565, ARP 566, ARP 567, ARP 568, ARP 569.

²Electives II: Choose one of the following courses: ARP 581, ARP 582, ARP 583, ARP 584, ARP 585, ARP 586.

Undergraduate Courses: Architecture

ARP 213 Basic Technical Skills (2.2); 3 cr. Using different art tools, devices and materials. Preparing and presenting a portfolio. *Corequisite:* FAP 211, GDP 212.

ARP 215 Cultural Determinants of Lebanese Architecture (3.0); 3 cr. Initiation to the Lebanese Art and Architecture pointing toward the conceptual determinants and constants omnipresent in the Lebanese Culture. A historical overview showing the morphological development through time.

ARP 221 Architectural Sketching and Rendering (2.2); 3 cr. The aim is to develop abilities in observation of the physical environment in a methodical and analytical manner. The skills are to be obtained through free hand sketching and sketch-measuring using different media. *Prerequisite:* FAP 211.

ARP 222 Principles of Architectural Design (2.2); 4 cr. It is a continuation of GDP 212 with an emphasis on applying three dimensional design principles on architectural settings. The dynamics of motion, light, form, and space are also explored via readings and workshops. Another major topic of this course is the Spatial Analysis of natural and man-made environment and their graphical representation through Bubble diagrams, Site and Area analysis, photography, etc. *Prerequisite:* GDP 212.

ARP 223 Descriptive Geometry (2.2); 3 cr. Study of geometric projections in space. Emphasis on volumetric development, shade and shadow construction. *Prerequisite:* ARP 213.

ARP 224 Applied Architectural Design I (1.4); 3 cr. The application of computer aided design (CAD) concepts in developing and communicating architectural ideas and projects. *Corequisite:* ARP 322

ARP 225 Statics for Architecture (3.0); 3 cr. Study of forces, moments and couples; free body diagrams; shear and bending moment diagram; centroids; moments of inertia; problems involving beams, trusses, and frames.

ARP 233 3D Architectural Survey (1.2); 2 cr. The objective of this course is to help students understand deeply and experiment why and how to construct architectural models of different scale and different kinds of materials. Students will plan and do research on the use, detail,

budget, and techniques before starting construction.

ARP 301 Technical Drawing II (2.2.); 3 cr. A continuation of Technical Drawing I, with an emphasis on perspective as a powerful visualization tool for the Architect. The course covers the mechanical construction method same as One, Two and, Three vanishing points perspective. It also introduces the study of shadows (different light directions) and reflections in perspective. *Prerequisite:* ARP 223.

ARP 311 Architectural Design I (3.4); 5 cr. This course is the first in a sequential series of design courses. The main purpose of Architectural Design I is to acquaint student with basic Architectural problems, through the analysis of context and precedents. *Prerequisite:* ARP 222.

ARP 313 History of Architecture I (3.0); 3 cr. The main objectives of studying History of Architecture are the studying of the genesis of the aesthetic phenomena with respect to the human needs and understanding the development, the evolution, the impact of different ideologies, the sequence and the innovations in Architecture through history pertaining to the "spirit of time". The History of Architecture I is a survey and analysis of the architectural production of antiquity: Prehistoric Architecture; Architecture of Egypt; Architecture of the Ancient Near East; Architecture of Greece; Architecture of the Hellenistic Kingdoms.

ARP 316 Strength of Materials (3.0); 3 cr. Study of materials' allowable constants; normal stresses due to axial loads and bending moments; shear stresses due to torque and shear; combined stresses; buckling of columns; discussion on real life examples. *Prerequisite:* ARP 225.

ARP 317 Building Technology I (2.2); 3 cr. A technical and cultural preparation, aiming at assisting the student in resolving technological problems in the design phase and an appropriate use of the different materials in building construction.

ARP 322 Architectural Design II (3.4); 5 cr. A continuation of Architectural Design I. The understanding of environmental and residential

design principles will be dealt with. Students are exposed to projects that will deal with tackling the appropriate methods in exploring and evaluating the different aspects of the design field. *Prerequisite:* ARP 311.

ARP 324 History of Architecture II (3.0); 3 cr. Continuation of History of Architecture I, the course covers the development of architecture from the 4th century BC to the 12th century AD. It covers the Architecture of Etruscans, Republican Rome and the Roman Empire; the Early Christian and the Byzantine Empire; the Early Mediaeval and Romanesque and the Architecture of Islam. *Prerequisite:* ARP 313.

ARP 325 Applied Architectural Design II (1.4) 3 cr. The application of 3D studio VIZ creating complex 3D representations, rendering and animation. *Prerequisite:* ARP224.

ARP 327 Structural Analysis (3.0); 3 cr. Analysis of structurally determinate and indeterminate structures; moving load structures, and approximate methods; modeling and analysis of structures; deflection of beams; discussion on real life examples. *Prerequisite:* ARP 316.

ARP 328 Building Technology II (2.2); 3 cr. The course closes with the learning and application of the technologies of building construction, aiming to assist students in the execution project. *Prerequisite:* ARP 317.

ARP 422 Lighting Design and Electrical Systems (1.2); 2 cr. Types of artificial light sources and the human eye. Production, measurement and control of light. Design of lighting systems. Electrical requirements and distribution in buildings and related execution problems. *Prerequisite:* ARP 328.

ARP 423 Acoustics (1.2); 2 cr. Analysis, design and detailing of acoustical factors influencing spaces and building design. *Prerequisite:* ARP 328.

ARP 424 Bio-climatic Architecture (2.2); 3 cr. Understanding of environmental aspects in Architectural Design and the focus on energy efficiency from the concept to the detailing stages concluded with market investigations that permit the evaluation and use of local materials. *Prerequisite:* ARP 328.

ARP 425 Architectural Practice (1.2); 2 cr. A supervised internship and lectures dealing with: business correspondence, building up the

corporate image of the firm, dealing with tender bids and offers, duties, responsibilities, and fees of the different phases of a project. *Prerequisites:* ARP 328, ARP 552.

ARP 433 Architectural Design III (3.6); 6 cr. A continuation of Architectural Design II. This course deals with the contextual peculiarities of an existing structure (a traditional house, an industrial or / and an urban wasteland...etc.). It surveys, analyzes its morphological components, and proposes new destinations. *Prerequisite:* ARP 322.

ARP 435 History of Architecture III (3.0); 3 cr. Continuation of History of Architecture II, from the 12th century to the mid-17th century. It covers the Gothic Architecture and The Renaissance Period. *Prerequisite:* ARP 324.

ARP 438 Reinforced Concrete Design (3.0); 3 cr. Behavior of reinforced concrete; ultimate strength design method; studying the concrete structural elements; design of beams for flexure and shear, one-way and introduction to two-way slabs, footings, and short columns. Analysis methods of concrete frames. Application design project of a multi-storey building. *Prerequisite:* 327.

ARP 439 Mechanical and Sanitary Systems (2.2); 3 cr. The physiological and environmental aspects of heating, ventilation and air conditioning; comfort tables and charts. Estimating heating and cooling loads and the choice of appropriate systems. The choice and design of water distribution and plumbing systems. Problems encountered with such installations on site. *Prerequisite:* ARP 328.

ARP 444 Architectural Design IV (3.6); 6 cr. A continuation of the precedent Architectural Design courses, with an emphasis on the implementation of building codes and regulations on complex architectural settings in urban contexts. The chosen projects shall be more of a residential, public, and administrative nature. *Prerequisite:* ARP 433.

ARP 446 History of Architecture IV (3.0); 3 cr. Continuation of History of Architecture III, to cover the architecture from the mid-17th century to the mid 19th century. It covers The Baroque and the Rococo architecture. *Prerequisite:* ARP 435.

ARP 551 Construction Detailing Studio I (2.2); 3 cr. This course is meant to acquaint the student with the elaboration of professional

construction document of architectural projects, and the adaptation of standard construction details to various architectural contexts. *Prerequisites:* ARP 328, ARP 444.

ARP 552 Construction Detailing Studio II (2.2); 3 cr. A continuation of Construction Detailing Studio I, with an emphasis on detail problem solving. Students are expected to develop further their architectural designs to reach the final stage of construction documents. *Prerequisite:* ARP 551.

ARP 553 Specifications and Quantity Surveying (3.0); 3 cr. Specifications and tender documents writing. The sources and the methods of classification for subsequent use. Practice projects. *Prerequisite:* ARP 552.

ARP 554 Surveying and Field Surveying (2.2); 3 cr. Surveying and instrumentation; introduction to optical, photographic, mathematical, and geometrical principles relevant to photogrammetry and remote sensing; introduction to global positioning system. Field plane surveying; topographic mapping; location survey and route surveying.

ARP 555 Architectural Design V (3.6); 6 cr. Continuation of Design IV dealing with more complex aspects of the built environment. It initiate students to the “scientific” research by admitting only obviousness (evidences) and theories in the different disciplines. *Prerequisite:* ARP 444.

ARP 556 Architectural Design VI (3.6); 6 cr. This course figures out the developing of the critical thinking and analyzing “objectively” of an Environmental Design issue; Sensibilization to the contextual demand of our society; Application of the different architectural paradigm and methodological conceptualization; The concretization into a well developed architectural expression. The Implementation of a realistic contextual site as well as basic determinant constraints (laws, environment, etc.). *Prerequisite:* ARP 555.

ARP 557 Architectural Theories (3.0); 3 cr. Survey of architectural theories as stated by architects, historians, and architectural critics. The main objectives of this course are to have a global view on the different schools of thought in architecture and to heighten the student’s awareness of the various interpretations of the architectural paradigm as well as to the evolution of theories in architecture; *Prerequisite:* ARP 446.

ARP 561 Urbanism I (3.0); 3 cr. A survey of urban morphology in terms of characteristic phases of development with emphasis on environmental, cultural and economic factors governing urban growth. *Prerequisite:* ARP 444.

ARP 562 Urbanism II (2.2); 3 cr. A survey of different basic approaches to urban and city planning present and past. A comprehensive and critical survey of urban planning in Lebanon. *Prerequisite:* ARP 561.

ARP 563 Building Rules & Regulations (3.0); 3 cr. Professional code of ethics for the practice of the profession. The moral and legal responsibilities of the architect towards the executed project and concerned parties. A survey of construction building codes and a study of the Lebanese construction laws. (taught in Arabic).

ARP 564 Restoration of Monuments (2.2); 3 cr. The purpose of this course is to prepare the students for restoration projects, having professional characteristics, on a building which will be freely chosen by themselves. *Prerequisites:* ARP 301, ARP 446.

ARP 565 Landscape Architecture (2.2); 3 cr. Theory and principles of design and problem solving processes as applied to fundamentals of design form in the landscape. *Prerequisites:* ARP 301, ARP 446.

ARP 566 Basic Industrial Design (2.2); 3 cr. Introduction to the theories, methods and practices of industrial design with primary emphasis on basic visual language and visual encoding practices. *Prerequisites:* ARP 301, ARP 446.

ARP 567 Archaeology (2.2); 3 cr. Studying the cultural heritage and rediscovering human experience since its origin to the present. It focuses on the archaeology of Lebanon: Its history, artifact recording or ethnographic data, composition and description. *Prerequisites:* ARP 301, ARP 446.

ARP 568 Social Architecture (3.0); 3 cr. The course aims at initiating students to the research in sociology; to give a comprehensive overview of the contribution of the behavioral sciences to architectural theory; to present generalizations on what the built environment affords people and a set of concepts for understanding the relationship between architecture and human behavior. *Prerequisites:* ARP 301, ARP 446.

ARP 569 Project Planning and Management (3.0); 3 cr. This course focuses on providing an overall understanding of the project development. The course tackles: Theoretical frameworks and tools; quantitative methods and process used in analyzing project investment decisions; case studies. Project scope definition, phasing, scheduling, and control method. *Prerequisite:* ARP 301, ARP 446.

ARP 581 Seminar I (2.0); 2 cr. Lectures and conferences held by visiting instructors.

ARP 582 Seminar II (2.0); 2 cr. Lectures and conferences held by visiting instructors.

ARP 583 Design Theory (2.0); 2 cr. Some recent examples include virtual and dynamic environments. The architecture of professional architects housing and modernity, 20th Century Design.

ARP 584 Topics in Oriental Architecture (2.0); 2 cr. Analysis of theoretical, culture and historical determinants as they may be applied to a select array of oriental architects and buildings.

ARP 585 Topics in Japanese Architecture (2.0); 2 cr. Analysis of theoretical, culture and historical determinants as they may be applied to a select array of Japanese architects and buildings.

ARP 586 Topics in Lebanese Architecture (2.0); 2 cr. Analysis of theoretical, culture and

historical determinants as they may be applied to a select array of Lebanese architects and buildings.

ARP 590 Senior Study (2.0); 2 cr. An introduction to the senior design courses that allows students to choose and justify their final senior project. *Prerequisites:* ARP 552, ARP 556, ARP 557.

ARP 591 Senior Project I (4.4); 6 cr. The course involves a research that includes a theoretical and philosophical thought defining the problematic or situational aspect of the theme and the aim; specifying the hypothesis/concepts and justifying the *raison d'être* of the project. In respect to the theoretical thought, the conceptualization and "operationalization" of the hypothesis into concepts, dimensions and indicators, leads to the embryonic aspect of the proposed project. *Prerequisite:* ARP 590.

ARP 593 Senior Project II (3.6); 6cr. This Final senior course proposes a complete and comprehensive development of the project in which the relevance to the thesis presented in Senior Project-I should be demonstrated graphically. A complete set of drawings models, photographs, and recordings must be finalized by the student under the supervision of an advisor and collaborators. *Prerequisite:* ARP 591.

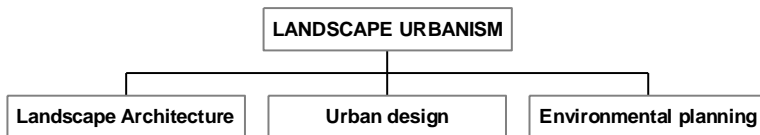
The Degree of Master of Architecture in Landscape Urbanism

Boundaries between environmental design disciplines are getting blurred. Increasingly, landscape architecture is being explored from different perspectives pertaining to art, architecture, urbanism, ecology, and technology. As such, it is perceived as an architectural incorporation of nature, an investigation in regional ecologies, an experimental field for installation artists, or as a means for reinforcing regional and urban identities. Hence, landscape architecture is losing its narrow definition as a professional field concerned with designing gardens and urban open spaces. It is widening its scope to embrace contemporary environmental problems and philosophical debates about the evolving attitudes towards nature, design, cities and their interface.

In response to this inclusive attitude toward the environment, this program opens a new perspective for graduate studies bridging the gap between art, architecture, landscape architecture and urbanism. It provides new graduate students as well as experienced professionals the opportunity to explore and to learn to manage emerging and pressing issues related to environmental conservation and sustainable development. As such the program aims at educating professionals and researchers who are able to respond to the need of ministries, international agencies as well as private developers and consulting offices in devising a culturally-appropriate approach to environmental planning and in formulating landscape and urban design strategies at urban, metropolitan and regional scales. It also encourages aesthetic exploration by individual artists, architects and landscape designers who prefer to follow their own itinerary in professional or research work.

Structure

The course is organized around three areas of concentration: Landscape Architecture, Urban Design, and Environmental Planning. Specific requirements depend on the interest of the student and the recommendations of the advisor of the department:



during the first semester, the student is exposed to the breadth of the program through a series of intensive introductory lecture-workshop courses covering the wide range of theories, methods and issues underlying the three areas of concentration. Starting from the second semester, the student will start focusing on a specialization area that will guide his selection of elective courses as well as his disciplinary focus within the required studio and core courses. The program provides the added flexibility of opting for a design-oriented course of study leading to a professional project thesis or for a research-oriented course of study leading to a written thesis with high analysis content.

Admission Requirements

In addition to the university admission requirements for graduate students, the candidate must submit a portfolio of work for assessment and schedule an interview with MLU course faculty.

In addition, applicants for the graduate program may be granted a maximum of nine transfer credits of graduate studies taken at another accredited institution of higher education provided that the transfer course(s) correspond to the NDU course requirements.

In order to be accepted into the program, the students must take a minimum of 6 credits per semester as a part-time candidate and 9 credits as a full-time candidate.

Students applying with a bachelor degree outside of architecture should fulfill the undergraduate requirements of the university admission policy. Students with a degree from FAAD other than architecture will have to consult with MLU course faculty.

Graduation Requirements

Students seeking the degree of Master of Landscape Urbanism must meet the university graduation requirements and complete 36 credits with a cumulative average of at least 3.0/4.0.

**Degree Requirements
(36 credits)**

Core Courses **30 cr.**
 MLU 615, MLU 616, MLU 617, MLU 623/MLU 624, MLU 625/MLU 626,
 MLU635, MLU636, MLU645

Major Electives **6 cr**

**Master of Landscape Urbanism
Suggested Program (36 Credits)**

Year I

Fall Semester (9 Credits)

| | | | |
|-----|-----|--|------|
| MLU | 615 | Ecological Foundations of Landscape Urbanism | 3cr. |
| MLU | 616 | Aesthetic Foundations of Landscape Urbanism | 3cr. |
| MLU | 617 | Landscape Informatics | 3cr. |

Spring Semester (9 Credits)

| | | | |
|-----|-----|---|------|
| MLU | 623 | Cultural foundations of Landscape Urbanism | 3cr. |
| or | | | |
| MLU | 624 | The coastal environment | |
| MLU | 625 | Generative landscapes | 3cr. |
| or | | | |
| MLU | 626 | Policy and implementation in landscape urbanism | |
| — | — | Major Elective | 3cr. |

Year II

Fall Semester (9 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| MLU | 635 | Workshop in Landscape Urbanism | 6 cr. |
| MLU | 636 | Thesis Seminar | 3 cr. |

Spring Semester (9 Credits)

| | | | |
|-----|-----|----------------|-------|
| MLU | 645 | Thesis | 6 cr. |
| — | — | Major elective | 3 cr. |

Graduate Courses: Landscape Urbanism

MLU 615 Ecological foundations of Landscape Urbanism (2.2); 3 cr. Combined lecture-workshop on the principles and practice of ecological design and planning with emphasis on the local and regional context.

MLU 616 Aesthetic foundations of Landscape Urbanism (2.2); 3 cr. Combined lecture-workshop course on the perceptual and spatial structures of landscapes as analytical and design tools.

MLU 617 Landscape informatics (2.2); 3 cr. The use of digital tools for terrain mapping and analysis, as well as landscape modeling and visualization.

MLU 623 Cultural foundations of Landscape Urbanism (2.2); 3 cr. Combined lecture-workshop course on the cultural identity of urban and metropolitan landscapes addressing their formative process and their underlying ideological, socio-economical and spatial dialectics. *Prerequisites:* MLU615, MLU 616

MLU 624 The coastal environment (3.0); 3 cr. The impact of urbanization on the coastal zone in the Mediterranean, regional and local contexts and the dialectics of development and conservation.

MLU 625 Generative landscapes (3.0); 3 cr. Exploration of landscape typologies, natural and man-made, that epitomize the various social and political orders through history.

MLU 626 Policy and implementation in landscape urbanism (3.0); 3 cr. The legislative foundations of environmental design and planning with identification of public and private sector stakeholders and the alternative approaches for policy implementation.

MLU 627 Open space art: from statues to installations (2.2); 3 cr. The historical and contemporary approaches to natural landscapes and public open spaces by artists and environmental designers, and the emerging trends on the international and local levels.

MLU 628 Emerging International Issues in Landscape Urbanism (3.0); 3 cr. A seminar in which international topics of current relevance to practice and critical thinking in environmental planning, urban design and landscape architecture will be explored. The course content will change each semester to maintain currency within the professions.

MLU 629 Emerging regional and national Issues in Landscape Urbanism (3.0); 3 cr. A seminar in which local and regional topics of current relevance to practice and critical thinking in environmental planning, urban design and landscape architecture will be explored. The course content will change each semester to maintain currency within the professions.

MLU 635 Workshop in Landscape Urbanism (2.8); 6 cr. Key development and conservation issues explored through the perspectives of environmental planning, urban design and landscape architecture. *Prerequisites:* MLU615, MLU 616, MLU 617.

MLU 636 Thesis Seminar (2.2); 3 cr. Preparation for final project/research thesis including an initial stage of data gathering and analysis leading to research proposal. *Prerequisite:* MLU 635.

MLU 645 Thesis (4.4); 6 cr. Supervised dissertation work in the form of a professional project or written thesis.

DEPARTMENT OF DESIGN

Chairperson: *Mrs. Linda Selwood Choueiri*

Secretary: *Mrs. Elsie Girgis*

Associate Professor

Haddad, Robert, Master of Fine Arts, 1980, University of Pennsylvania, USA

Senior Lecturers

Choueiri, Linda Selwood, Master of Science in Supervision & Administration in the Visual Arts, 2000, Parsons School of Design / Bank Street College, USA

Zaccour, Danielle, Diplôme d'Etudes Supérieures en Arts Plastiques, 1991, Académie Libanaise des Beaux-Arts, Liban

Lecturers

Bechara, André, Master of Arts in Design, 2007, Notre Dame University – Louaize, Lebanon. Bachelor of Fine Arts, 1991, Parsons School of Design, USA

Daghfal, Graziella, Master of Arts in Design, 2002, Middlesex University, UK

Kortbawi, John, Post-Graduate Diploma in Advanced Typographic Design, 1977, London College of Printing, UK

Matta, Nadim, Master of Arts, 1999, London Institute / London College of Printing, UK
Typographic Studies

Mikhael, Diane, Master of Arts in Design, 2000, Middlesex University, UK

Instructors

Nasr, Noel, Master of Arts in Photography, 2006, University of Kent, UK

Goals

The Department of Design provides an undergraduate degree which stresses the educational needs of a professional designer in a comprehensive and flexible manner.

The Department of Design actively contributes to the university as well as to local, national, and international industries through its scholarly and creative activities, educational programs, and service efforts.

The BA programs offered by the Department of Design will enable students to:

- Communicate as professional designers with clients, audience and industries, utilizing various forms of messages while maintaining personal and professional integrity.
- Critically assess designs through research and reflection while respecting both moral and ethical issues in cultural and social contexts of local, regional or global environments.
- Embrace the dynamic design process that reflects creativity in producing innovative and effective solutions.
- Understand and respond to a client's needs by following a design process which analyzes a problem, proposes a hypothesis and synthesizes relevant findings before designing possible solutions.
- Demonstrate flexibility while applying various theories from historical movements or schools of thought to support the generation of conceptual and contextual solutions.

Degrees

The Department of Design is currently offering three undergraduate degrees:

- A Bachelor of Arts in Graphic Design
- A Bachelor of Arts in Interior Design
- A Bachelor of Arts in Fashion Design

The Department of Design offers a graduate degree:

- Master of Arts in Design

The Degree of Bachelor of Arts in Graphic Design

Program Description

Graphic Design is a creative and analytical process that integrates Design and technology to communicate ideas and information from a client to an audience. The primary goal of the Graphic Design curriculum is to educate students to become innovators and leaders in print and screen related areas of professional practice.

Furthermore, the Graphic Design program encourages exploration through problem solving methodologies, innovative investigations, and creative research in all forms of communication. The program is dedicated to excellence in teaching, academic and creative research and professional practice.

The BA program aims to educate graphic designers through focusing on creative and intellectual thinking, awareness of individual, social and cultural issues in a global context, the integration of new technology and the concern for ethical implications and the natural environment.

The Bachelor of Arts Degree in Graphic Design is a 3 year full-time program of 102 credits. The students will choose from three concentration areas: Typographic Design, Multimedia Design, or Information Design.

Admission Requirements:

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s) the first year of enrollement. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Graphic Design and other majors in the Design Department of the Faculty of Architecture, Art & Design.

Graduation Requirements:

To receive the degree of Bachelor of Arts in Graphic Design, a student must complete a total of 102 credits with an overall grade-point average of at least 2.0/4.0 and a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. All major courses with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

General Education Requirements (GER): **27 cr.**

The GER are distributed as follows:

| | |
|---|--------|
| Sophomore English: ENL 213 & ENL 230 | 6 cr. |
| Cultural Studies: Religion, Arabic, Western Literature, Philosophy, Cultural Sequence, Architecture, Design, Art, Music, etc... | 15 cr. |
| Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc... | 6 cr. |

Core Requirements **6 cr.**

FAP 211, GDP 212

Major Requirements **63 cr.**

Common Courses

GDP 217, GDP 221, GDP 222, GDP 223, GDP 227, GDP 315, GDP 321, GDP 322, GDP 323, GDP 317, GDP 324, GDP 412, GDP 413, GDP 415, GDP 423.

Concentration Area Courses 18 cr.

In addition the student will select one of the following concentration areas:

Typographic Design - GDP 371, GDP 372, GDP 473, GDP 474, GDP 475 and GDP 476.

Multimedia Design - GDP 381, GDP 382, GDP 483, GDP 484, GDP 485 and GDP 486.

Information Design - GDP 391, GDP 392, GDP 493, GDP 494, GDP 495 and GDP 496.

Free Electives **6 cr**

In principle, the students will fulfill their concentration requirements during the last three semesters.

- In the course GDP 474 (or GDP 484 or GDP 494), the students will research and submit in writing their Senior Project Proposals which will be assessed by selected faculty members.
- In the final course GDP 476 (or GDP 486 or GDP 496), the students will develop and accomplish their Senior Projects and prepare a presentation in front of a jury composed of faculty members and invited professionals.

Typographic Design Concentration

Typographic Design is one of the major areas of the interdisciplinary profession of visual communication. Students will develop a critical eye and ability to distinguish different type forms and styles. They will demonstrate proficiency in applying type to express clear and legible communication for different media. They can also respond to the need of creating identities based on type solutions. Students will be qualified to manage a complex design project, and prepare and supervise a final production.

Career Opportunities:

A graduate can work in the field of Graphic Design in advertising agencies, design studios, and production houses as: creative director, typographer, type designer, design publisher, and environmental visual communicator.

Multimedia Design Concentration

Within the diverse disciplines in Graphic Design, Multimedia Design turns out to be nowadays highly dynamic due to the rapid growth of digitisation in communication. It is paving the way for enormous opportunities for graduate multimedia designers.

Students who choose this concentration will acquire solid analytical, intellectual and technical skills necessary to the development of multimedia design solutions.

This concentration is planned for students who like to research, create and deliver effective communication to a specific audience for TV, movies and Internet, designing websites, interactive communication and motion graphics using type, image, animation, and sound.

Career Opportunities

A Graphic Design student graduating with multimedia concentration has the opportunity to work as creative director, 2-D animator, 3-D animator, storyboard and concept designer, multimedia and web designer for television, production houses, companies for web interfaces and animations, advertising agencies and design studios.

Information Concentration

“Excellence consists of complex ideas communicated with clarity, precision, and efficiency and that is just as true of the new media as the old” (Edward R. Tufte) Information design is an interdisciplinary field that focuses mainly on efficient and objective visual communication. It teaches students to transform data from any source (raw, action or process) into a visual model and present them to the audience in a practical, clear and simplified model.

This concentration area is intended for students who like to process, design, present, and implement message-making through words, text, maps, charts, symbols, pages, signs and screen interface.

Career Opportunities

Students graduating with information design concentration will work as information consultants in various structures and domains such as: Editorial design, screen and web presentation, way finding/travel and transportation (airport, road sign systems). Also students can work closely with industrial designers and companies that require filtering of information to be presented to the public: medical fields, electronic suppliers, big corporations, etc.

**Bachelor of Arts in Graphic Design – Typography Concentration
Suggested Program (102 Credits)**

Year I

Fall Semester (15 Credits)

| | | | |
|-----|-----|---|-------|
| FAP | 211 | Drawing I | 3 cr. |
| GDP | 212 | Design Principles I | 3 cr. |
| GDP | 217 | Conceptual Communication in Digital Media | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| GDP | 221 | Sketching | 3 cr. |
| GDP | 222 | Design Principles II | 3 cr. |
| GDP | 223 | Fundamentals of Typogrpahy | 3 cr. |
| GDP | 227 | Digital Media I | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 315 | Color & Illustration for Graphic Designers | 3 cr. |
| GDP | 317 | Digital Media II | 3 cr. |
| GDP | 322 | Applied Typographic Design | 3 cr. |
| GDP | 324 | Photography for Graphic Designers | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 321 | Visual Communication I | 3 cr. |
| GDP | 323 | History of Graphic Design & Cont. Issues | 3 cr. |
| GDP | 371 | Type Design | 3 cr. |
| GDP | 372 | Experimental Typography | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| GDP | 412 | Packaging | 3 cr. |
| GDP | 413 | Print Management & Production | 3 cr. |
| GDP | 415 | Branding for Design | 3 cr. |
| GDP | 473 | Arabic Type Design | 3 cr. |
| GDP | 474 | Mapping Information | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|---|-------|
| GDP | 423 | Professional Practice & Portfolio Preparation | 3 cr. |
| GDP | 475 | Design and Culture: Typogrpahy | 3 cr. |
| GDP | 476 | Senior Studio in Typographic Deisgn | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Bachelor of Arts in Graphic Design - Multimedia Concentration
Suggested Program (102 Credits)

Year I

Fall Semester (15 Credits)

| | | | |
|-----|-----|---|-------|
| FAP | 211 | Drawing I | 3 cr. |
| GDP | 212 | Design Principles I | 3 cr. |
| GDP | 217 | Conceptual Communication in Digital Media | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| GDP | 221 | Sketching | 3 cr. |
| GDP | 222 | Design Principles II | 3 cr. |
| GDP | 223 | Fundamentals of Typography | 3 cr. |
| GDP | 227 | Digital Media I | 3 cr. |
| | | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 315 | Color & Illustration for Graphic Designers | 3 cr. |
| GDP | 317 | Digital Media II | 3 cr. |
| GDP | 322 | Applied Typographic Design | 3 cr. |
| GDP | 324 | Photography for Graphic Designers | 3 cr. |
| | | GER | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 321 | Visual Communication I | 3 cr. |
| GDP | 323 | History of Graphic Design & Cont. Issues | 3 cr. |
| GDP | 381 | Interactive Design | 3 cr. |
| GDP | 382 | Motion Graphics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| GDP | 412 | Packaging | 3 cr. |
| GDP | 415 | Branding for Design | 3 cr. |
| GDP | 413 | Print Management and Production | 3 cr. |
| GDP | 483 | Type in Motion | 3 cr. |
| GER | 484 | 3D in Motion | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|---|-------|
| GDP | 423 | Professional Practice & Portfolio Preparation | 3 cr. |
| GDP | 485 | Design and Culture: Multimedia | 3 cr. |
| GDP | 486 | Senior Studio in Multimedia Design | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

**Bachelor of Arts in Graphic Design – Information Concentration
Suggested Program (102 Credits)**

Year I

Fall Semester (15 Credits)

| | | | |
|-----|-----|---|------|
| FAP | 211 | Drawing I | 3cr. |
| GDP | 212 | Design Principles I | 3cr. |
| GDP | 217 | Conceptual Communication in Digital Media | 3cr. |
| — | — | GER | 3cr. |
| — | — | GER | 3cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|----------------------------|------|
| FAP | 221 | Sketching | 3cr. |
| GDP | 222 | Design Principles II | 3cr. |
| GDP | 223 | Fundamentals of Typography | 3cr. |
| GDP | 227 | Digital Media I | 3cr. |
| — | — | GER | 3cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 315 | Color & Illustration for Graphic Designers | 3 cr. |
| GDP | 317 | Digital Media II | 3 cr. |
| GDP | 322 | Applied Typographic Design | 3 cr. |
| GDP | 324 | Photography for Graphic Designers | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| GDP | 321 | Visual Communication I | 3 cr. |
| GDP | 323 | History of Graphic Design & Cont. Issues | 3 cr. |
| GDP | 391 | Survey of Information Design | 3 cr. |
| GDP | 392 | Informing the traveler | 3cr. |
| — | — | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| GDP | 412 | Packaging | 3 cr. |
| GDP | 413 | Print Management & Production | 3 cr. |
| GDP | 415 | Branding for Design | 3 cr. |
| GDP | 493 | Information Structure | 3 cr. |
| GDP | 494 | Illustrating Information | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|---|-------|
| GDP | 423 | Professional Practice & Portfolio Preparation | 3 cr. |
| GDP | 495 | Design and Culture: Information | 3 cr. |
| GDP | 496 | Senior Studio in Information Design | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Graphic Design

GDP 212 Design Principles I (2.2); 3 cr. Various design elements are introduced such as line, shape, plane, texture, color, style and composition. The students are encouraged to be creative and develop individual style.

GDP 217 Conceptual Communication in Digital Media (2.2); 3 cr. Students will learn the process of generating creative ideas, and apply principles of design to conceptual communication. In parallel, students are introduced to the fundamental tools to produce vector and raster-based graphics through the use of latest software for graphic production. Projects and assignments will focus on the exploration of concepts, and implementation through digital media. *Corequisite:* GDP 212.

GDP 221 Sketching (2.2); 3 cr. The ability to draw rapidly and effectively is one of the most valuable skills needed in the design field; it is critical for expressing design ideas for one self, one's colleagues and one's clients. Accordingly, this course explores sketching starting from very simple to very complex expressions that communicate effectively their creative ideas. *Prerequisite:* FAP 211.

GDP 222 Design Principles II (2.2); 3 cr. Relations between 3-D structure and space are explored analytically and synthetically. Students will investigate a given subject; learn to follow a problem-solving process in order to reach a functional and defendable design solution. *Prerequisite:* GDP 212.

GDP 223 Fundamentals of Typography (2.2); 3 cr. Students will learn how to classify type according to its history and development, type measurements, series of exercises exploring: space, hierarchy, order, kerning, tracking, type size and weight. Furthermore, the students will explore the use of type and space together with the development of grids through the application of design to a variety of formats. *Prerequisite:* GDP 217 *Corequisite:* GDP 227.

GDP 224 Introduction to Photography (2.2); 3 cr. The use of photography as an aesthetic tool for art and design.

GDP 227 Digital Media for Graphic Design I (2.2); 3 cr. This course is designed to help graphic designers master professional studio techniques including photo-montage, photo retouching and special photographic effects. It

also covers the fundamental software tools and techniques to produce publications and prepare the end product for printing process. *Prerequisite:* GDP 217

GDP 315 Color & Illustration for Graphic Designers (2.2); 3 cr. An introduction to color using traditional tools and materials. The course will cover perceptual understanding of color and the use of color as a communication medium. It will also include the fundamentals in illustration which draws upon use of existing materials, illustration on location, abstract subject matter to assist the student in bringing an idea to life. A range of media will be introduced such as pencil, paints and pastels. *Prerequisite:* GDP 227.

GDP 317 Digital Media II (2.2); 3 cr. This course concentrates on training design students to produce graphic solutions for online environment. Terminology, theory, structure, html basics and appropriate software tools for web design will be covered enabling the students to design Websites. Students will also be exposed to understand the process of conveying a message in motion and it interacts within the website. *Prerequisite:* GDP 227.

GDP 321 Visual Communication (2.2); 3 cr. Students will learn how to approach conceptual problem solving through the use of visual rhetoric and the science of semiotics. The course will also focus on signs and symbols, ideograms, sequential design, publication, and information design whilst taking into consideration the potential audience.

GDP 322 Applied Typographic Design (2.2); 3 cr. Students will explore projects of greater complexity; learn how to analyze substantial data, appreciate the design functions of relating ideas and develop logical structural systems to organize information for legible and clear communication. Students will be able to transform manuscripts into printed publications i.e. book design, newspaper, magazine, and instruction manual. They will have to follow a design process to assess typographical text application, expression, hierarchy, sequential design, layout and page systems including production. *Prerequisite:* GDP 223, GDP 227.

GDP 323 History of Graphic Design & Contemporary Issues (3.0); 3 cr. The course exposes the students to the genesis and development of graphic design in the 20th

century. The students investigate the theory and practice of graphic design under the two main philosophies of the 20th century: modernism and postmodernism. The course aims to develop the student's ability to comprehend theoretically and visually the graphic design movements and pioneers as a source of inspiration and reference for their conceptual and innovative process.

GDP 324 Photography for Graphic Designers I (2.2); 3 cr. Students will be exposed to critical thinking and will learn the history of photography including the different photography movements. Students will learn the principles and use of black and white photography, and its application in documentary photography and Photojournalism. The student will learn the concept of photo editing as it applies to printed matters. *Prerequisite:* GDP 227.

GDP 371 Type Design (2.2); 3 cr. Students will learn the principles of designing fonts ready for print and screen. They transfer the manually developed typeface into true type font using professional software. *Prerequisite:* GDP 317, GDP 322.

GDP 372 Experimental Typography (2.2); 3 cr. This course will provide the opportunity to experiment with type and research various methods and techniques to serve a pragmatic purpose to express ideas using type. Students will also be familiar with various printing process and effects, i.e. letterpress, application of hot metal type as raised image in conjunction with photoengraved plates. *Prerequisite:* GDP 317, GDP 322.

GDP 381 Interactive Design (2.2); 3 cr. The course introduces the student to website history and digital interface, website structures and grids, website management and design principles using type, image, color scheme, hierarchy, sequential design, visual identity, animation and sound. *Prerequisite:* GDP 317, GDP 322.

GDP 382 Motion Graphics (2.2); 3 cr. Students will create visual projects for screen and TV through the understanding and application of type and image. They will learn how to plan movie concept through sketching and storyboarding and will gain knowledge on how to develop graphic sound tracks to be synchronized with motions. They will also learn the principles of generating short movies and the techniques of editing them. Through assigned projects, students are responsible to follow a design process in order to deliver a specific

message using motion graphics. *Prerequisite:* GDP 317, GDP 322.

GDP 391 Survey of Information Design (2.2); 3 cr. This course exposes students to the development of information design in the 20th century through various definitions and pioneers. Contemporary designs will be evaluated and analyzed with the aim to form a solid knowledge basis as preparation for future projects. *Prerequisite:* GDP 317, GDP 322.

GDP 392 Informing the Traveler (2.2); 3 cr. This course draws upon a deep knowledge in the use of signs, symbols, and visual identity systems for cities, centers, institutions, and airports... that are used to inform the traveler. Students will learn how to make international symbols that should remain unbiased and accurate to help the user take an action. Navigation and way finding in space will be a main issue exposed to students during this course. *Prerequisite:* GDP 317, GDP 322.

GDP 412 Packaging (2.2); 3 cr. Packaging is an important factor in retail environments and a key element in marketing strategies. This course focuses on the technical knowledge needed to execute a design, to prepare die-cuts, molds, paper section and boards, colors, quality and quantity. Size consideration, shapes and practicality will also be covered. Field trips are required in this course. *Prerequisite:* GDP 322.

GDP 413 Print Management and Production (2.2); 3 cr. Covers print methods and print techniques including color separation, film preparation, plate processing and the actual production process. It will also include the choice of papers, printing onto various surfaces, paper engineering and management and finishing processes and binding. *Prerequisite:* GDP 321.

GDP 415 Branding for Design (2.2); 3 cr. Students will create the visual corporate identities of products, build the brand marketing strategy, analyze and define the unique selling proposal, and communicate its value. The student s will learn how to make professional presentations including documentation of the process. *Prerequisite:* GDP 323.

GDP 423 Professional Practice & Portfolio Preparation (2.2); 3 cr. Overview of the business aspects of design: Translation of jobs into properly written documents, meetings with clients and presentation of work, design and production processes, understanding the brief,

debriefing, coding, encoding, budgets, estimating design, fees, and official contracts. During the semester, students will have to cover hours for the internship. This course also assists students in the development of their professional visual identity and portfolio. *Prerequisite:* GDP 413.

GDP 473 Arabic Type Design (2.2); 3 cr. This course will introduce the students to the history of Arabic typography. Students will learn to identify the different Arabic type styles and their classifications. They will be able to analyze type anatomy; apply a creative design process to produce Arabic typeface. Design projects are to be assigned using type and image to test, create and verify legibility and functionality of the Arabic font. *Prerequisite:* GDP 372.

GDP 474 Mapping Information (2.2); 3 cr. Students are introduced to ways of analyzing and creating meaning in graphic and typographic design solutions for indoor and outdoor environment. In the context of theory and practice, the students will develop wayfinding systems, semiotics, and information presentation for the public; i.e. exhibition design. It involves integrative communication elements of the following: architectural graphics, time, space, signs, sign systems, colors, type, image, 3D forms, movement and sound. Students will investigate and formulate their senior project proposal. *Prerequisite:* GDP 372.

GDP 475 Design and Culture: Typography (2.2); 3 cr. The global communication requires the designer to be fully informed and exposed to the value of similarities and differences of typographic application of different cultures. The students will understand the underlying differences that may limit or enhance international communications through projects, seminars and workshops. *Prerequisite:* GDP 372.

GDP 476 Senior Studio in Typographic Design (2.2); 3 cr. Students will research, develop and design their individual senior project under instructor guidance. Articles, discussions, seminars and lectures will take place during class sessions in support of the development of the senior projects. The senior project and related process will be presented in front of a professional jury. *Prerequisite:* GDP 474.

GDP 483 Type in Motion (2.2); 3 cr. Students will learn how to communicate effectively using

type, image and sound progressively with more and more complex needs for motion graphics. Students will know how to inform while underpinning the media constraints. In parallel, they will learn how to create interface design and promotional broadcasting graphic movies using different software platforms and advanced tools tracking 2D and 3D animations. *Prerequisite:* GDP 382.

GDP 484 3D in Motion (2.2); 3 cr. The students are introduced to the principles of 3D animation; learn how to sketch, illustrate and design characters as well as developing contemporary design solutions with new approaches of type, image, and characters for screen using appropriate tools and techniques to develop 3D motion graphics for multimedia. Students will investigate and formulate their senior project proposal. *Prerequisite:* GDP 382.

GDP 485 Design and Culture: Multimedia (2.2); 3 cr. The global communication requires the designer to be fully informed and exposed to various cultures way of designing in Multimedia. Students will learn how to write creative scripts and express a positioning, explore their concepts and apply it into the global cultural environment. *Prerequisite:* GDP 382.

GDP 486 Senior Studio in Multimedia Design (2.2); 3 cr. Students will research, develop and design their individual senior project under instructor guidance. Articles, discussions, seminars and lectures will take place during class sessions in support of the development of the senior projects. The senior project and related process will be presented in front of a professional jury. *Prerequisite:* GDP 484.

GDP 493 Information Structure (2.2); 3 cr. In this course students will become aware of issues pertaining to the identification, categorization and structure of raw and complex information from different fields. Projects such as packaging information and annual reports including flows, charts and graphs, will teach students to design and create logical presentation out of chaos to capture the essence of the message. *Prerequisite:* GDP 392.

GDP 494 Illustrating Information (2.2); 3 cr. Students will learn through various techniques (photography, film, and not least from comic strips and technical illustrations in the field of visual communication) the art of designing installation instructions, safety cards,

manufacturing processes and manuals, based on the power of images and illustrations for optimal solutions. Students will investigate and formulate their senior project proposal. *Prerequisite:* GDP 392.

GDP 495 Design and Culture: Information (2.2); 3 cr. Students will investigate the way information is handled in various cultures; on screen, websites and interactive interfaces. Computerized and electronic devices are designed to assist the user and make the interaction effortless. The course will draw upon the logic behind any interface such as panels,

cellular phones, and musical devices... focusing on the structure and categorization of content. *Prerequisite:* GDP 392.

GDP 496 Senior Studio in Information Design (2.2); 3 cr. Students will research, develop and design their individual senior project under instructor guidance. Articles, discussions, seminars and lectures will take place during class sessions in support of the development of the senior projects. The senior project and related process will be presented in front of a professional jury. *Prerequisite:* GDP 392.

The Degree of Bachelor of Arts in Interior Design

Program Description

Our interior design program consists of a sequential undergraduate design studios that form the core of the professional interior design major. Basic architectural and design principles of form-making are the initial focus that soon shift to issues of people and space.

The program helps students develop critical thinking, creative design and evaluation of how interior design meets the needs of people is the essence of our professional curriculum. Within the instructional settings of the upper design studios, our students learn about the dynamic interactions between people and space in the commercial, institutional, hospitality, healthcare and retail facilities. Graduates develop competency in specific interior design subject areas as they learn how to creatively make the world a better place for people. Our program provides opportunities for the students to achieve excellence in the design of interior environments also to engage in research and develop a specialization in a related field and possible topics for advanced studies in furniture design, environmental design, historic preservation, visualization and interior applications for computers, design research and theory as well as design education.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English courses(s) (if required) the first year of enrollement. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Interior Design or other majors in the Design Department of the Faculty of Architecture, Art & Design.

Graduation Requirements

To receive the degree of Bachelor of Arts in Interior Design, a student must complete a total of 136 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. All major courses with a grade of less than C- must be repeated. The 136 credits necessary for graduation are divided as follows:

Degree Requirements (136 credits)

General Education Requirements 27 cr.

The GER are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr.

Cultural Studies: Religion, Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 15 cr.

Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc... 6 cr.

Core Requirements 6 cr.

FAP 211, GDP 212.

Major Requirements 97 cr.

IDP 210, IDP 211, IDP 212, IDP 214, IDP 215, IDP 216, IDP 222, IDP 223, IDP 224, IDP 225, IDP 226, IDP 227, IDP 311, IDP 312, IDP 313, IDP 314, IDP 321, IDP 322, IDP 323, IDP 324, IDP 326, IDP 327, IDP 328, IDP 411, IDP 412, IDP 413, IDP 421, IDP 422, IDP 423, IDP 424.

Free Electives 6 cr

**Bachelor of Arts Degree in Interior Design
Suggested Program (136 Credits)**

Year I

Fall Semester (12 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| FAP | 211 | Drawing I | 3 cr. |
| GDP | 212 | Design Principles I | 3 cr. |
| IDP | 210 | Basic Skills for Interior Design | 3 cr. |
| IDP | 313 | Applied Interior Design I | 3 cr. |

Spring Semester (15Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| IDP | 215 | Descriptive Geometry for Int. Design | 3 cr. |
| IDP | 216 | Design Theories and Critical Thinking | 3 cr. |
| IDP | 223 | Drawing for Interior Design | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (6credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| IDP | 211 | History of Interiors and Furniture | 3 cr. |
| IDP | 212 | Fundamentals of Interior I | 3 cr. |
| IDP | 214 | Materials and Methods of Construction | 3 cr. |
| IDP | 224 | Colors in Interiors | 3 cr. |
| IDP | 323 | Applied Interior Design II | 3 cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| IDP | 222 | Fundamentals of Interior II | 3 cr. |
| IDP | 225 | Materials & Finishes | 3 cr. |
| IDP | 226 | Textiles for Interiors | 3 cr. |
| IDP | 227 | Human Factors for Int. Des. | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester (15 Credits)

| | | | |
|-----|-----|--|-------|
| IDP | 311 | History of Modern Contemporary Interiors | 3 cr. |
| IDP | 312 | Interior Design Project I | 3 cr. |
| IDP | 314 | Interior Detailing and Construction I | 3 cr. |
| IDP | 327 | Furniture Design | 3 cr. |
| IDP | 413 | Applied Interior Design III | 3 cr. |

Spring Semester (16 Credits)

| | | | |
|-----|-----|--|-------|
| IDP | 321 | Environmental Graphic Design | 3 cr. |
| IDP | 322 | Interior Design Project II | 4 cr. |
| IDP | 324 | Interior Detailing and Construction II | 3 cr. |
| IDP | 326 | Concepts of Hist. Pres. | 3 cr. |
| IDP | 328 | Lighting Design in Interiors | 3 cr. |

Summer Semester (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year IV**Fall Semester (15 Credits)**

| | | | |
|-----|-----|--|-------|
| IDP | 411 | Quantity Surveying for Interior Designers | 3 cr. |
| IDP | 412 | Interior Design Studio I | 6 cr. |
| IDP | 423 | Integrated Systems for Sustainable Interiors | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester (15Credits)

| | | | |
|-----|-----|--|-------|
| IDP | 421 | Business Practice for Interior Designers | 3 cr. |
| IDP | 422 | Interior design Studio II | 6 cr. |
| IDP | 424 | Interior Design Management | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Interior Design

IDP 210 Basic Skills for Interior Design (2.2); 3 cr. This course helps the student develop the necessary skills and techniques required to communicate visually his interior design ideas effectively and professionally. This course will give the student the ability to draw and sketch, assess, evaluate and understand existing structures, also learn to survey sites and collect data and take them to the drawing board. Topics include: Design briefs and specifications; comprehensive drawing files: presentation techniques, layouts and renderings; technical drawing files: Scaled drawing, plans, elevations, sections, etc. *Corequisite:* FAP 211, IDP 313.

IDP 211 History of Interiors and Furniture I (3.0); 3 cr. A study of ancient architecture, interiors and furniture from the beginning of human civilization to the modern civilization. *Corequisite:* IDP 212.

IDP 212 Fundamentals of Interior I (2.2); 3 cr. Essentials of planning an interior architectural environment in relationship with spatial organization. *Prerequisite:* IDP 210, IDP 215.

IDP 214 Materials and Methods of Construction (2.2); 3 cr. This course combines case studies with lectures, readings and discussions on concepts of design technology. *Corequisite:* IDP 212.

IDP 215 Descriptive Geometry for Int. Design. (2.2); 3 cr. Study of the different interrelated geometric fields and three dimensional forms in the interior environment. Emphasis on the formation of volumetric development, light sources, shades, shadows and their constructions. *Prerequisite:* IDP 210, FAP 211.

IDP 216 Design theories and critical thinking (3.0); 3 cr. This course helps the student review the turning points of historical events and their influences on the design developments and movements. The student will also learn how to carry out investigative research and critical analysis of design when required. The student will also explore how social and political circumstances influence the design process. Topics include: Global design styles, modernism, design through ages.

IDP 222 Fundamentals of Interior II (2.2); 3 cr. Study of structural setting in any

architectural space leading to constraints in the design process. *Prerequisite:* IDP 212.

IDP 223 Drawing for Interior Design (2.2); 3 cr. This is an intense studio course developing free hand drawing skills, scaled perspective appropriate for the presentation of interior design projects. This course also develops a wide range of rendering skills and techniques applicable in traditional and computer media. *Prerequisite:* FAP 211, *Corequisite:* IDP 222.

IDP 224 Colors in Interiors (2.2); 3 cr. This course will teach the student to achieve the right choices of colors in different interior spaces and environments, and they will also learn to develop the opulent designer's eye when required to balance color schemes and combinations. Topics included: Color theories, color psychology, color science, color characteristics and notation. *Corequisite:* IDP 212.

IDP 225 Materials and Finishes (1.4); 3 cr. This course offers an introduction to construction detailing for interiors, focusing on architectural millwork. *Corequisite:* IDP 222.

IDP 226 Textiles for Interiors (2.2); 3 cr. Effects of fibers, yarns, fabrics and finishes on appearance and performance. Study of the construction of textile products used in interiors. *Corequisite:* IDP 222.

IDP 227 Human Factors for Int. Des. (2.2); 3 cr. This course investigates human factors as an essential ingredient in the design process. Physical and psychological human factors will be examined in an attempt to better understand The spatial relationship between humans and their environment. Topics include: Proxemics, cognitive mapping, imageability, human sensory and ergonomics. *Corequisite:* IDP 222.

IDP 311 History of Modern Contemporary Interiors (3.0); 3 cr. This course is an overview of the 20th Century art, culture, interior and furniture. *Prerequisite:* IDP 221, *Corequisite:* IDP 312.

IDP 312 Interior Design Project I (2.2); 3 cr. This course covers the creative triggering of the design problem solving process through schematics. It also investigates human factors as an essential ingredient in the design process. *Prerequisite:* IDP 222.

IDP 313 Applied Interior Design I (2.2); 3 cr. This course explores the pragmatics of computer hardware and software as integral tools to contemporary design. *Corequisite:* IDP 210, FAP 211.

IDP 314 Interior Detailing and Construction I (2.2); 3 cr. The course introduces the students to the various material finishes used in interior design. *Corequisite:* IDP 312.

IDP 321 Environmental Graphic Design (2.2); 3 cr. This course studies the presentation of information in the designed environment. *Corequisite:* IDP 322.

IDP 322 Interior Design Project II (2.4); 4 cr. The student is challenged to work on a major construction displaying creativity and ability to remodel this space according to new functions. *Prerequisite:* IDP 312.

IDP 323 Applied Interior Design II (2.2); 3 cr. This course develops a more professional and creative approach to design while broadening the student's technical base. *Prerequisite:* FAP 211.

IDP 324 Interior Detailing and Construction II (2.2); 3 cr. Review, discussion and analysis of interior construction systems used in commercial and institutional structures. *Prerequisite:* IDP 314, *Corequisite:* IDP 322.

IDP 326 Concepts of Historic Preservation (2.2); 3 cr. Projects consist of a search for new remodeling techniques, constructing and preserving historic buildings and monuments. *Corequisite:* IDP 322.

IDP 327 Furniture Design (2.2); 3 cr. This course exposes the student to the design industry starting from the drawing board and ending with a full scale furniture model. The student will learn to implement the step by step hands on model making of furniture pieces that he created, the student will be using the ergonomic knowledge that he learned in the human factors course. Topics included: Ergonomic design for the global industry. Designing for the Industry. Model making. Specimen building and mass production. *Corequisite:* IDP 312.

IDP 328 Lighting Design in Interiors (2.2); 3 cr. This course takes a practical approach to lighting, and the student will learn about the different types of lighting such as ambient, task and decorative. The student will also learn the

fundamentals of lighting design in relation to residential and contract interiors. The subjects tackled in this course will give the student enough knowledge to incorporate lighting in the total interior design scheme. Topics covered: Natural, artificial lighting, quality of light. Technicalities: Switches and wiring. Finally, electrical plans and specifications. *Corequisite:* IDP 322.

IDP 411 Quantity Surveying for Interior Designers (2.2); 3 cr. Emphasis on the principals of construction. *Corequisite:* IDP 412.

IDP 412 Interior Design Studio I (3.6); 6 cr. This course covers all aspects of professional presentation of a complete construction drawing-file to secure accurate executions. *Prerequisite:* IDP 322.

IDP 413 Applied Interior Design III (2.2); 3 cr. This course shows students how to create computer animation and 3-rendered materials within an interior space. *Prerequisite:* IDP 323, *Corequisite:* IDP 412.

IDP 421 Business Practice for Interior Designers (3.0); 3 cr. Focuses on the legal aspects of design and contract documents for interior architecture. *Corequisite:* IDP 422. *Prerequisite:* IDP 411.

IDP 422 Interior Design Studio II (3.6); 6 cr. This course is structured to challenge the student to deal specifically with contract interiors. *Prerequisite:* IDP 412.

IDP 423 Integrated Building Systems (HVAC and Plumbing) (2.2); 3 cr. This course provides a structured opportunity to study and integrate all components of architectural technology into a comprehensive whole. *Corequisite:* IDP 412.

IDP 424 Interior Design Management (3.0); 3 cr. This course exposes the student to the main management principles in interior design with the understanding that this profession is an integral part of the the construction industry. The student will learn the different management techniques and skills that an interior designer needs to practice in his business formation starting with maning his office ending up with a contract and passing by all the processes that require a business like attitude. Finally, the student will learn the design-built team working approach. *Corequisite:* IDP 422.

The Degree of Bachelor of Arts in Fashion Design

Program Description

Lebanon has already established itself in the international fashion design industry and as a result there is a potential for a prosperous local market in need of competent fashion designers. The graduates will be able to produce traditional as well as innovative and contemporary design concepts suitable for the national, regional and international market. The program combines advanced design concepts supported by current technology in order to produce creative and original, individual prototypes for haute couture or industrial production.

Upon graduation, the student will be ready to work as fashion designer, fashion exporter or wholesaler, fashion journalist, patternmaker, and other related careers.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s) during their first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to the Bachelor of Arts in Fashion Design and other majors in the Design Department of the Faculty of Architecture, Art & Design.

Graduation Requirements

To receive the degree of Bachelor of Arts in Fashion Design, a student must complete a total of 102 credits with an overall grade-point average of at least 2.0/4.0 and a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. All major courses with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

| | |
|--|---------------|
| General Education Requirements (GER): | 27 cr. |
| The GER are distributed as follows: | |
| Sophomore English: ENL 213 & ENL 230 | 6 cr |
| Cultural Studies: Religion, Arabic, Western Literature, Philosophy, Cultural Sequence, Architecture, Design, Art, Music, etc... | 15 cr. |
| Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc... | 6 cr. |
| Core Requirements | 6 cr. |
| FAP 211, GDP 212 | |
| Major Requirements | 63 cr. |
| GDP 222, FTP 214, FTP 217, FTP 224, FTP 227, FTP 229, FTP 314, FTP 317, FTP 318, FTP 319, FTP 326, FTP 327, FTP 328, FTP 329, FTP 413, FTP 417, FTP 418, FTP 419, FTP 423, FTP 427, FTP 428. | |
| Free Electives | 6 cr |

**Bachelor of Arts Degree in Fashion Design
Suggested Program (102 Credits)**

Year I

Fall Semester (15 Credits)

| | | | |
|-----|-----|---------------------|------|
| FAP | 211 | Drawing I | 3cr. |
| GDP | 212 | Design Principles I | 3cr. |
| FTP | 214 | Textile Technology | 3cr. |
| FTP | 217 | Fashion Studio I | 3cr. |
| — | — | GER | 3cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|---------------------------|------|
| GDP | 222 | Design Principles II | 3cr. |
| FTP | 224 | History of Fashion Design | 3cr. |
| FTP | 227 | Fashion Studio II | 3cr. |
| FTP | 229 | Fashion Design I | 3cr. |
| — | — | GER | 3cr. |

Summer Session. (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (15 Credits)

| | | | |
|-----|-----|---------------------------------------|------|
| FTP | 314 | Contemporary Issues in Fashion Design | 3cr. |
| FTP | 317 | Fashion Studio III | 3cr. |
| FTP | 318 | Patternmaking I | 3cr. |
| FTP | 319 | Fashion Design II | 3cr. |
| — | — | GER | 3cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|---------------------------------|------|
| FTP | 326 | Fashion Trends and New Concepts | 3cr. |
| FTP | 327 | Fashion Studio IV | 3cr. |
| FTP | 328 | Pattenmaking II | 3cr. |
| FTP | 329 | Fashion Design III | 3cr. |
| — | — | GER | 3cr. |

Summer Semester (6 Credits)

| | | | |
|---|---|-----|------|
| — | — | GER | 3cr. |
| — | — | GER | 3cr. |
| — | — | | |

Year III

Fall Semester (15 Credits)

| | | | |
|-----|-----|--------------------------|------|
| FTP | 413 | Culture & Fashion Design | 3cr. |
| FTP | 417 | Fashion Studio V | 3cr. |
| FTP | 418 | Patternmaking III | 3cr. |
| FTP | 419 | Fashion Design IV | 3cr. |
| — | — | GER | 3cr. |

Spring Semester (15 Credits)

| | | | |
|-----|-----|-----------------------------------|------|
| FTP | 423 | Professional Praticce & Marketing | 3cr. |
| FTP | 427 | Fashion Studio VI | 3cr. |
| FTP | 428 | Patternmaking IV | 3cr. |
| — | — | Free Elective | 3cr. |
| — | — | Free Elective | 3cr. |

Undergraduate Courses: Fashion Design

FTP 214 Textile Technology (2.2); 3 cr. This course is an overview of the textiles in fashion design including printing techniques. Advanced surface treatments are investigated. Students are encouraged to experiment and apply original designs as inspiration for creation of textiles. *Corequisite:* GDP 212.

FTP 217 Fashion Studio I (1.4); 3 cr. The students will use the master pattern in basic concepts as well as be encouraged towards original design. Furthermore, they will explore the appropriate sewing techniques for various fabrics including information on fabric resources.

FTP 224 History of Fashion Design (3.0); 3cr. This course traces the history of fashion tradition from antiquity until 1890, including the ancient civilizations of Egypt, Mesopotamia, Greece, Rome, and continuing with the Renaissance, the French Revolution until the Art Nouveau Period.

FTP 227 Fashion Studio II (1.4); 3 cr. The students will learn fundamental draping procedures and their applications, through creative original designs incorporating fabric selection, draping and construction. They will realize the relationship between creative design and the quality of the finished sample. *Prerequisite:* FTP 217.

FTP 229 Fashion Design I (2.2); 3 cr. The students will learn to develop design fashions, in parallel they will sketch figures and garment details through analysis of photographs and research, resulting in fashion design sketches. The ability to design through creative exploration is an integrated part of the course. Techniques for rendering the characteristics of various fabric textures, weights and patterns will be explored. *Prerequisite:* FAP 211.

FTP 314 Contemporary Issues of Fashion Design (3.0); 3 cr. The students will investigate the relationship between fashion design and the contemporary issues of the 20th and 21st Century, beginning with the Art Nouveau period, the ‘between the two Wars’ period, the New York era, innovations of the 20th Century to end with the contemporary era. *Prerequisite:* ENL 213.

FTP 317 Fashion Studio III (1.4); 3 cr. Students work on creating their own concepts for designs and finished garments, strengthening

their understanding of cutting, construction and tailoring techniques. *Prerequisite:* FTP 227, *Corequisite:* FTP 318.

FTP 318 Patternmaking I (2.2); 3 cr. Students will study the use of the pattern for various sectors while developing basic concepts as well as original designs according to professional standard through hands-on practice. *Corequisite:* FTP 317.

FTP 319 Fashion Design II (2.2); 3 cr. The students will continue to develop creative concepts in fashion design illustrations and presentation boards through exposure to softwares used in the fashion industry. This process is explored both manually and digitally. *Prerequisite:* FTP 229.

FTP 326 Fashion Trends and New Concepts (2.2); 3 cr. Students will explore the concepts and trends that add glamour to fashion design, through various resources, such as the “Tendance” of the professional fore-casting services. Students will focus on the details such as accessories in new dimensions and materials; thus enhancing their creative potential. *Prerequisite:* FTP 314.

FTP 327 Fashion Studio IV (1.4); 3 cr. Students will develop skills and techniques necessary to produce garments of various sectors, including professional processes and assembly procedures. *Prerequisite:* FTP 317, *Corequisite:* FTP 328.

FTP 328 Patternmaking II (2.2); 3 cr. The students will learn to create advanced patterns using computer and appropriate software as a tool for production, in order to efficiently reflect and execute their creative and original ideas. *Prerequisite:* FTP 318, *Corequisite:* FTP 327.

FTP 329 Fashion Design III (2.2); 3 cr. Creative thinking in both process and product will encourage the students to create trade sketches and storyboards of their fashion designs. The aim is to develop cohesiveness in a collection based on individual concepts with diverse applications, and to present the designs in fashion portfolios. *Prerequisite:* FTP 319. *Corequisite:* FTP 327.

FTP 413 Culture & Fashion Design (3.0); 3 cr. This course will expose the students to examine the influence of various cultures and research personal visions and concepts in

Fashion Design, as part of their senior project proposal. They will investigate, formulate and present their visions in both written and verbal form including visuals. *Prerequisite:* FTP 326.

FTP 417 Fashion Studio V (1.4); 3 cr. The students will continue to employ industrial standards for tailoring garments, including advanced construction processes and assembly procedures to ensure a high quality garment. *Prerequisite:* FTP 327, *Corequisite:* FTP 418, FTP 419.

FTP 418 Patternmaking III (2.2); 3 cr. The students master the translation of any volume or idea regardless of material or purpose. Students will further construct, in tandem manually and digitally, advanced patternmaking for final execution. *Prerequisite:* FTP 328, *Corequisite:* FTP 417.

FTP 419 Fashion Design IV (2.2); 3 cr. Creative and advanced design methodology will ensure unique and professional development of a collection with personal style and effective communication of sketches, fashion design, storyboards and portfolios for their senior collection. *Prerequisite:* FTP 329.

FTP 423 Professional Practice & Marketing (2.2); 3 cr. The students will be exposed to the professional aspects of Fashion Design: Management of inventory, decision making, planning, licensing, plus strategies to enhance market strength. The process of learning happens through daily journaling, written reports and a presentation of their internship experience. It is the student's responsibility to find an internship and to notify the instructor for approval. Furthermore, the students will design, prepare and present a professional portfolio of their individual collections including the senior project. *Prerequisites:* FTP 417, FTP 418.

FTP 427 Fashion Studio VI (1.4); 3 cr. Students will apply professional standards to the execution of their senior collection and its process will be presented in front of a jury in order to develop high quality prototypes. *Prerequisite:* FTP 417, *Corequisite:* FTP 428

FTP 428 Patternmaking IV (2.2); 3 cr. The concepts developed through design and research will inform the patternmaking for a collection as their senior project resulting in professional execution. *Prerequisite:* FTP 418, *Corequisite:* FTP 427.

Undergraduate Courses: Fine Art

FAP 101 Introduction to Music and Art (3.0); 3 cr. Introduces students to techniques and representative works in the music and arts of various periods.

FAP 201 Intro to Painting (2.2); 3 cr. Introduces the student to different materials of painting, construction, composition and paint handling.

FAP 202 Intro to Sculpture (2.2); 3 cr. A course designed to introduce the student to 3-dimensional forms. Emphasis will be on the concept of modeling, carving, casting and constructing as well as developing new ways of expression.

FAP 203 Intro to Ceramics (2.2); 3 cr. This course will allow the students to build forms from clay using basic handbuilding techniques and the potter's wheel.

FAP 204 Intro to Printmaking (2.2); 3 cr. Students experiment with classical and contemporary methods for creating multiple originals.

FAP 205 Intro to Textiles (2.2); 3 cr. Introduction to weaving and surface design. Basic elements of color, texture, and structure.

FAP 211 Drawing I (2.2); 3 cr. Eye and hand coordination are developed through the use of different drawing techniques.

FAP 214 Performing Arts and Music (2.2); 3 cr. Designed to enhance student's creativity in discovering the fields of theater, dance and music.

FAP 215 Art & Culture (2.2); 3 cr. The aim of this course is to broaden the students' culture understanding. Students will experience a variety of forms of expression, which may include sound, movement, time, and space.

FAP 221 Drawing II (2.2); 3 cr. Drawing is encouraged through observation and application. The human figure is considered in relation to the environment. *Prerequisite:* FAP 211.

FAP 225 Conceptual Communication (2.2) 3 cr. A course based on "visual thinking" exercises for the development of the students' ideas and visual expressions.

FAP 315 History of Art (3.0); 3 cr. This course is an exposure to a discussion of the major concepts and developments in the classical period in the history of art.

FAP 325 History of Modern Art (3.0); 3 cr. This course is an exposure to a discussion of the major concepts and developments in the modern contemporary history of art.

PDP 201 Basic Photography (2.2); 3 cr. An introduction to the camera, dark room, film and processing. Students will learn about basic techniques of exposure, lighting and laboratory.

FDP 201 Basic Design (2.2); 3 cr. Introduces students to basics of visual expression and organization. *Prerequisite:* Sophomore Standing.

FDP 214 Design for Advertising (2.2); 3 cr. This course is designed for the communication art students. It emphasizes both the functional and the aesthetic aspects of design. *Prerequisite:* FDP 201.

FAC 311 Arts and Crafts I (2.2); 3 cr. An introduction to the surface design of decorative arts and crafts, including fabric dyes, material and techniques used in traditional and non-traditional methods of surface design for ceramics, jewelry, metal-working, leather work, and fiber arts. Japanese, African, Indonesian techniques for tie-dye, batik, paste resist and hand painting on fabric are also studied. Projects emphasize development of personal expression as well as technical proficiency.

The Degree of Master of Arts in Design (MA)

The Master of Art in Design program is designed for students of Visual Arts and Design who wish to engage in a further period of study as a continuum from their bachelor studies. It is also designed for experienced students who wish to raise their intellectual and professional experience in a field of study, following a period of work in industry or in the professions associated with design.

The post-graduate status of the Master Program derives from the emphasis given to the relationship between theoretical concepts and the practical realization of a problem; theory and practice at an informed and exploratory level.

The post-graduate status also derives from a teaching approach which lays considerable emphasis upon the managerial and professional aspects of project research and development designed to raise the standards of the successful implementation of the subjects in the professional, applied context of society and industry.

Finally, the post-graduate status of the course allows the student to disengage from the daily pursuit of tasks in their field, which are normally carried out under constraints which limit their exploration of the subject in a holistic sense. Instead, the student is enabled to look deeply into the context of their work, the history and theory, the practice and achievement of specialists in this and other countries on an international, global scale.

The impacts of traditional, new and developing technologies are studied. Graduates of the course can keep abreast of current trends by providing themselves with the intellectual network and contacts necessary to remain fully informed throughout their future professional lives; a benefit to themselves, and their employers.

Master students are able to follow their intellectual and creative discoveries to a depth and distance which will give the opportunity to create pilot schemes and projects which can be developed in the true scientific manner of trial and error: Testing, revision and proposals for further development. Thus, building a body of knowledge on their subject provides the basis for further pioneering and exploratory work, creatively and technically.

The program aims:

- To extend and further develop the intellectual, professional and technical skills of graduates and of mid-career practicing designers

- To explore the social and cultural context within which the processes of designing take place
- To support the individual in developing high-level research ability and to explore the interrelationship of theory and practice.

Admission Requirements

The Master of Art in Design is set for students from the several disciplines that are embraced by the term visual arts and designs, who wish to engage in a period of study beyond the bachelor level, and who wish to raise their intellectual and/or professional experience associated with visual arts and/or design.

Students with bachelor degrees from other disciplines are invited into the program after they have fulfilled undergraduate requirements of the university admission policy.

In addition to the university admission requirements for graduate students, the candidate must submit a portfolio of work for assessment and schedule an interview with MA course faculty.

In order to be accepted into the program, the student must take a minimum of 6 credits per semester as a part-time candidate and 9 credits as a full-time candidate.

Transfer

Although transfer is not generalized, some credits from major universities can be transferable upon admission by the Committee. A transferred course must be passed at the grade of 80 according to the NDU grading and University bylaws.

In addition, applicants for the graduate program may be granted a maximum of nine transfer credits of graduate studies taken at another accredited institution of higher education provided that the transfer course(s) correspond to the NDU course requirements.

Graduation Requirements

Students seeking the degree of Master of Design must meet the university graduation requirements and complete 36 credits with a cumulative average of at least 3.0/4.0.

Degree Requirements (36 Credits)

Major Courses

MAD 615, MAD 616, MAD 617, MAD 625, MAD 626, MAD 627, MAD 635, MAD 636, MAD 645.

36 cr.

**The Degree of Master of Arts in Design (MA)
Suggested Program (36 Credits)**

Year 1

Fall Semester I (6-12 Credits)

| | | | |
|-----|-----|-------------------------------|------|
| MAD | 615 | Design Research Methodologies | 3cr. |
| MAD | 616 | Contemporary Issues in Design | 3cr. |
| MAD | 617 | Design Studio I | 6cr. |

Spring Semester I (6-12 Credits)

| | | | |
|-----|-----|-----------------------------|------|
| MAD | 625 | Design Research Development | 3cr. |
| MAD | 626 | Cultural Issues in Design | 3cr. |
| MAD | 627 | Design Studio II | 6cr. |

Year 2

Fall Semester II (6 Credits)

| | | | |
|-----|-----|---------------|------|
| MAD | 635 | Thesis I | 3cr. |
| MAD | 636 | Special Topic | 3cr. |

Spring Semester II (6 Credits)

| | | | |
|-----|-----|-----------|------|
| MAD | 645 | Thesis II | 6cr. |
|-----|-----|-----------|------|

Graduate Courses: Master of Arts in Design

MAD 615 Design Research Methodologies (2.2); 3 cr. A survey of current design thinking and research methodologies to aid the student in the development of projects in response to a critical content framework. The course is intended to offer the student support and direction in the formation of the critical thinking that will inform their written and visual solutions. Includes lectures, readings and discussion of contemporary issues in design in social and cultural contexts.

MAD 616 Contemporary Issues in Design (2.2); 3 cr. A seminar in which topics of current relevance to design practice and critical thinking will be explored and analyzed. The course content will change each semester to remain up to date within the profession.

MAD 617 Design Studio I (2.8); 6cr. Design projects in response to the critical content of Contemporary Issues in Design. Includes the role of designed objects in contemporary culture and the effect on society, including interaction with potential audiences. *Co-requisite* and/or *Prerequisite*: MAD 616.

MAD 625 Design Research Development (2.2); 3 cr. Development of conceptual and analytical skills for the self-initiated design research, which will culminate in a written proposal. *Prerequisite*: MAD 615.

MAD 626 Cultural Issues in Design (2.2); 3 cr. A seminar that will consider the relevance of culture to design particularly in the Lebanese

context. An introduction to recent theories in various disciplines concerning cultural understanding of design. The course content will change each semester to remain up to date within the profession. *Prerequisite*: MAD 616.

MAD 627 Design Studio II (2.8); 6 cr. A visual application of the topics and ideas covered in Cultural Issues in Design. The course is a platform for experimentation and exploration of concepts from the seminars. It focuses on the role of design objects as cultural artifacts and their reflection of social diversity on both designers and audience. It includes creation, reproduction, distribution and reception of messages. *Co-requisite* and/or *Prerequisite*: MAD 626.

MAD 635 Thesis I (2.2); 3 cr. This course will support and assist the student in the development and preparation of their research into a comprehensive written document that will complement the visual work to be undertaken in Thesis II. The two components will interrelate to support the theories, hypothesis and conclusions. *Prerequisite*: MAD 627.

MAD 636 Special Topic (2.2); 3 cr. This course is given by an invited instructor to explore topics of current interest. *Prerequisite*: MAD 627.

MAD 645 Thesis II (4.4); 6 cr. The course provides further guidance during the development of the thesis. The final outcome answers the research study developed in Thesis I. *Prerequisite*: MAD 635.

DEPARTMENT OF MUSIC AND MUSICOLOGY

Chairperson: *Dr. Prof. Fr. Elias Kesrwani*

Secretary: *Miss Adelle Dib*

Professor

Kesrwani, Dr. Prof. Fr. Elias, Diplome de Docteur, 1989, Sorbone Paris IV, France
Musicologie

The Degree of Bachelor of Arts in Music – Musicology Concentration

Program Description

The B.A. program is designed to help students develop competence and expertise in the areas of music history, theory and analysis.

In addition, students will further acquire professional skills in voice and instrument playing.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s) during their first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to the degree courses in Musicology and other majors in the Departments of the Faculty of Architecture, Art & Design.

Also, prior to admission, applicants will be subject to a practical evaluation, which covers instrument, voice and musical background.

Graduation Requirements

To receive the degree of Bachelor of Arts in Music – Musicology Concentration, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): **27 cr.**

The GER courses are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr.

Cultural Studies: Religion + four from the following areas: Arabic or Western Literature or Sociology of Music or Philosophy or Cultural Sequence or Art or Music or Lebanese Music etc... 15 cr.

Basic Science: Two courses from the following areas: Music Archeology, Phonetics (ear and vocal cords), Environmental Science, Nutrition, Health, Astronomy, Geology, Psychology, etc. 6 cr.

Foundation Year **24 cr.**

MUA 254, MUS 211, MUS 214, MUS 221, MUS 222, MUS 223, MUS 224, MUS 232, MUS 233, MUS 234, MUS 244, MUS 245.

The student must complete all Foundation courses with a minimum GPA of 2.3/4.0 or above. Students who fail to meet these requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Major Requirements **67 cr.**

MUE 376, MUM 347, MUM 354, MUM 437, MUM 448, MUS 324, MUS 331, MUS 334, MUS 341, MUS 342, MUS 343, MUS 344, MUS 346, MUS 352, MUS

353, MUS 382, MUS 384, MUS 441, MUS 444, MUS 451, MUS 452, MUS 453, MUS 454, MUS 455, MUS 462, MUS 463, MUS 464, MUS 474, MUS 475, MUS 484, MUS 485.

Free Electives

6 cr.

Bachelor of Arts in Music – Musicology Concentration
Suggested Program (124 Credits)

Year I

Fall Semester (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 211 | Applied Music Instrumental or Vocal I | 1 cr. |
| MUS | 222 | Theory of Music I | 1 cr. |
| MUS | 223 | Sight Singing and Ear Training I | 1 cr. |
| MUS | 214 | Introduction to Musicology | 3 cr. |
| MUS | 224 | History and Analysis of Western Music: Medieval – Baroque Period | 3 cr. |
| MUA | 254 | History of Arabic Music I | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (18 Credits)

| | | | |
|-----|-----|---|-------|
| MUS | 221 | Applied Music Instrumental or Vocal II | 1 cr. |
| MUS | 232 | Theory of Music II | 1 cr. |
| MUS | 233 | Sight Singing and Ear Training II | 1 cr. |
| MUS | 234 | History and Analysis of Western Music: Classical Period | 3 cr. |
| MUS | 244 | Ethnomusicology | 3 cr. |
| MUS | 245 | Musical Forms | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (9 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 331 | Applied Music Instrumental or Vocal III | 1 cr. |
| MUS | 342 | Harmony I | 1 cr. |
| MUS | 343 | Sight Singing, Rhythmic Chanting, and Ear Training III | 1 cr. |
| MUS | 324 | History and Analysis of Western Music: Romantic and Post-Romantic Period | 3 cr. |
| MUM | 354 | Organology of Music | 3 cr. |
| MUS | 344 | Religious Music (Gregorian, Byzantine, and Syriac) | 3 cr. |
| MUS | 382 | Methodology (research methods) of Music | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 341 | Applied Music Instrumental or Vocal IV | 1 cr. |
| MUS | 352 | Harmony II | 1 cr. |
| MUS | 353 | Sight Singing, Rhythmic Chanting, and Ear Training IV | 1 cr. |
| MUS | 334 | History and Analysis of Western Music: 20th Century and Contemporary Music | 3 cr. |
| MUS | 346 | Special Course | 3 cr. |
| MUM | 347 | Computer and Music | 3 cr. |
| MUS | 384 | Research Seminar | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| MUE | 376 | Secondary Instrument (Percussion) | 1 cr. |
| MUS | 454 | Instrumentation | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester III (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 441 | Applied Music Instrumental or Vocal V | 1 cr. |
| MUS | 452 | Harmony III | 1 cr. |
| MUS | 453 | Sight Singing, Rhythmic Chanting, and Ear Training V | 1 cr. |
| MUS | 464 | Sociology of Music | 3 cr. |
| MUS | 444 | Philology of Music | 3 cr. |
| MUS | 475 | Acoustics of Music | 3 cr. |

| | | | |
|---|-----|---|-------|
| MUS | 474 | Music Ensembles | 3 cr. |
| MUS | 484 | Project I | 3 cr. |
| Spring Semester III (18 Credits) | | | |
| MUS | 451 | Applied Music Instrumental or Vocal VI | 1 cr. |
| MUS | 462 | Counterpoint and Fugue | 1 cr. |
| MUS | 463 | Sight Singing, Rhythmic Chanting, and Ear Training VI | 1 cr. |
| MUM | 437 | Art Management | 3 cr. |
| MUS | 455 | Orchestration | 3 cr. |
| MUS | 485 | Project II | 3 cr. |
| MUM | 448 | Musical Criticism | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Musicology

MUS 201 Music Archeology (3.0); 3 cr. Music instruments and inscriptions of the early time.

MUS 211 Applied Music Instrumental or Vocal I (1.0); 1 cr. Private lessons with the teacher on the student's major instrument or voice. *Prerequisite:* Knowledge of 20% of the Latin program or its equivalent.

MUS 214 Introduction to Musicology (3.0); 3 cr. A survey of musicology, its philosophy and objectives, Relating musicology to auxiliary disciplines.

MUS 221 Applied Music Instrumental or Vocal II (1.0); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 211.

MUS 222 Theory of Music I (1.0); 1 cr. Last and general survey of Theory of Music aiming to fill up any lack in theory supposed to be achieved.

MUS 223 Sight Singing and Ear Training I (1.0); 1 cr. Ear training and sight singing exercises in the keys of C major, A minor, F major, D minor, G major, and E minor.

MUS 224 History and Analysis of Western Music: Medieval – Baroque Period (3.0); 3 cr. Survey of composers, pieces, languages and styles of Medieval, Renaissance, and Baroque periods.

MUS 232 Theory of Music II (1.0); 1 cr. The modes (other than the major and minor modes), chords (up to five tone chords), modulation, phrases and the different kinds of cadences, transposition, ornaments and abbreviations, and the contemporary notation. In brief: open horizon on harmony. *Prerequisite:* MUS 222.

MUS 233 Sight Singing and Ear Training II (1.0); 1 cr. Sight singing and ear training exercises in keys with up to four alterations.

Introduction to the eighth and 16th notes and syncopation, and the cut-time time signature. *Prerequisite:* MUS 223.

MUS 234 History and Analysis of Western Music: Classical Period (3.0); 3 cr. Survey of composers, pieces, languages and styles of the Classical period.

MUS 243 Lebanese Music (3.0); 3 cr. Traditional and popular Lebanese music: forms, metrics, modes rhythms and instruments from early time to the 20th century.

MUS 244 Ethnomusicology (3.0); 3 cr. Introduction to music of different cultures and times.

MUS 245 Musical Forms (3.0); 3 cr. Genres, styles, forms, structures of music throughout history.

MUS 324 History and Analysis of Western Music: Romantic and Post-Romantic Period (3.0); 3 cr. Survey of composers, pieces, languages and styles of Romantic, and Post-Romantic periods.

MUS 331 Applied Music Instrumental or Vocal III (1.0); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 221.

MUS 334 History and Analysis of Western Music: 20th Century and Contemporary Music (3.0); 3 cr. Survey of composers, pieces, and styles of 20th Century and contemporary periods.

MUS 341 Applied Music Instrumental or Vocal IV (1.0); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 331.

MUS 342 Harmony I (1.0); 1 cr. Three tone chords, cadences, and modulation. Harmonizing

short pieces and the dominant seventh chords.
Prerequisite: MUS 232.

MUS 343 Sight Singing, Rhythmic Chanting, and Ear Training III (1.0); 1cr. Sight singing and ear training exercises in keys with up to 6 alterations in the key signature. Introduction to composite measures, and more in depth applications of syncopation. *Prerequisite:* MUS 233

MUS 344 Religious Music (Gregorian, Byzantine, and Syriac) (3.0); 3 cr. Survey of Gregorian, Byzantine, and Aramaic chants and their modes.

MUS 345 History and Analysis of Western Music from Medieval to Classic (3.0); 3 cr.

MUS 346 Special course (3.0); 3 cr. Free specialized advanced course occasionally suggested (like lines and frequencies: architecture and music...).

MUS 352 Harmony II (1.0); 1 cr. 9th, 11th, and 13th chords, diminished seventh chords, and altered chords. *Prerequisite:* MUS 342.

MUS 353 Sight Singing, Rhythmic Chanting, and Ear Training IV (1.0); 1 cr. Sight singing and ear training exercises in the key of F with advanced rhythms. *Prerequisite:* MUS 343.

MUS 355 History and Analysis of Western Music from Romantic to Contemporary (3.0); 3 cr.

MUS 382 Methodology (research methods) of Music (3.0); 3 cr. Introduction to musical sources, principles of research, research styles, citations, and formatting. Art of writing theses and scientific works.

MUS 383 Secondary course (1.0); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 221

MUS 384 Research seminar (3.0); 3 cr. Presentation of a research project under the supervision of the teacher. *Prerequisite:* MUS 382.

MUS 441 Applied Music Instrumental or Vocal V (1.0); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 341.

MUS 444 Philology of Music (3.0); 3 cr. Musical intelligence, development of musical principles, intervals, and scales. *Prerequisite:* MUS 352.

MUS 451 Applied Music Instrumental or Vocal VI (1.0); 1 cr. Private lessons with the teacher on the student's major instrument: Knowledge of 50% of the Latin program or its equivalent. *Prerequisite:* MUS 441.

MUS 452 Harmony III (1.0); 1 cr. Retardation, pedal points, passing tones, neighboring tones, anticipation, the appoggiatura, and escape notes. *Prerequisite:* MUS 352.

MUS 453 Sight Singing, Rhythmic Chanting, and Ear Training V (1.0); 1 cr. Sight singing and ear training exercises in simple keys with advanced rhythms. *Prerequisite:* MUS 353.

MUS 454 Instrumentation (3.0); 3 cr. Study of instrumentation and arranging different music to different ensembles. *Prerequisite:* MUS 452.

MUS 455 Orchestration (3.0); 3 cr. Art of orchestra composing based on the evolution of instruments and music Schools.

MUS 462 Counterpoint and Fugue (1.0); 1 cr. Writing music for more than one voice in the modal styles of the organum, Motet... to fugue. *Prerequisite:* MUS 352.

MUS 463 Sight Singing, Rhythmic Chanting, and Ear Training VI (1.0); 1 cr. Sight singing and ear training exercises in all tonalities, and the C-clef. *Prerequisite:* MUS 453.

MUS 464 Sociology of Music (3.0); 3 cr. Expressions, principles and symbolism of music in social life.

MUS 474 Music Ensembles (3.0); 3 cr. Vocal or instrumental ensembles.

MUS 475 Acoustics of Music (3.0); 3 cr. Principles of sounds. Science of sound and the process of hearing. The study of hall acoustics.

MUS 484 Project I (3.0); 3 cr. Presentation of a research project under the supervision of the teacher. *Prerequisite:* MUS 384.

MUS 485 Project II (3.0); 3 cr. Presentation of a research project under the supervision of the teacher. *Prerequisite:* MUS 484.

MUS 490 Senior Project (3.0); 3 cr.

Suggested Free Elective Courses: MUS 201, MUE 335.

The Degree of Bachelor of Arts in Music – Music Education Concentration

A concentration in music education provides students with the professional qualifications to serve in educational settings.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s), during their first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to the degree courses in Music Education and other majors in the Departments of the Faculty of Architecture, Art & Design.

Also, prior to admission, applicants will be subject to a practical evaluation, which covers instrument, voice and musical background.

Graduation Requirements

To receive the degree of Bachelor of Arts in Music – Music Education Concentration, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in Major and Core Requirements. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 27 cr.

The GER courses are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr.

Cultural Studies: Religion + four courses from the following areas: Arabic or Western Literature or Sociology of Music or Philosophy or Cultural Sequence or Art or Music etc... 15 cr.

Basic Science: Two courses from the following areas: Environmental Science, Nutrition, Health, Astronomy, Music Archeology, Phonetics (ear and vocal cords), Geology, Psychology, etc... 6 cr.

Foundation Year 24 cr.

MUA 254, MUS 211, MUS 214, MUS 221, MUS 222, MUS 223, MUS 224, MUS 232, MUS 233, MUS 234, MUS 244, MUS 245.

The student must complete all Foundation courses with a minimum GPA of 2.3/4.0 or above. Students who fail to meet these requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Major Requirements 67 cr.

EDU 212, EDU 313, EDU 355, MUE 335, MUE 336, MUE 446, MUE 456, MUE 476, MUM 354, MUS 324, MUS 331, MUS 334, MUS 341, MUS 342, MUS 343, MUS 352, MUS 353, MUS 382, MUS 383, MUS 384, MUS 441, MUS 444, MUS 451, MUS 452, MUS 453, MUS 455, MUS 462, MUS 463, MUS 475, MUS 484, STA 201.

Free electives 6 cr.

Bachelor of Arts in Music – Music Education Concentration
Suggested Program (124 Credits)

Year I

Fall Semester (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 211 | Applied Music Instrumental or Vocal I | 1 cr. |
| MUS | 222 | Theory of Music I | 1 cr. |
| MUS | 223 | Sight Singing and Ear Training I | 1 cr. |
| MUS | 214 | Introduction to Musicology | 3 cr. |
| MUS | 224 | History and Analysis of Western Music: Medieval – Baroque Period | 3 cr. |
| MUA | 254 | History of Arabic Music I | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester (18 Credits)

| | | | |
|-----|-----|---|-------|
| MUS | 221 | Applied Music Instrumental or Vocal II | 1 cr. |
| MUS | 232 | Theory of Music II | 1 cr. |
| MUS | 233 | Sight Singing and Ear Training II | 1 cr. |
| MUS | 234 | History and Analysis of Western Music: Classical Period | 3 cr. |
| MUS | 244 | Ethnomusicology | 3 cr. |
| MUS | 245 | Musical Forms | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (9 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 331 | Applied Music Instrumental or Vocal III | 1 cr. |
| MUS | 342 | Harmony I | 1 cr. |
| MUS | 343 | Sight Singing, Rhythmic Chanting, and Ear Training III | 1 cr. |
| MUS | 324 | History and Analysis of Western Music: Romantic and Post-Romantic Period | 3 cr. |
| MUM | 354 | Organology of Music | 3 cr. |
| MUE | 335 | Music Education I | 3 cr. |
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| MUS | 382 | Methodology (research methods) of Music | 3 cr. |

Spring Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 341 | Applied Music Instrumental or Vocal IV | 1 cr. |
| MUS | 352 | Harmony II | 1 cr. |
| MUS | 353 | Sight Singing, Rhythmic Chanting, and Ear Training IV | 1 cr. |
| MUS | 334 | History and Analysis of Western Music: 20th Century and Contemporary Music | 3 cr. |
| MUE | 336 | Music Education II | 3 cr. |
| EDU | 212 | Sociological Perspective on Schools | 3 cr. |
| EDU | 355 | Methods of Teaching: Early Childhood | 3 cr. |
| MUS | 384 | Research Seminar | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|------------------|-------|
| MUS | 383 | Secondary course | 1 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester III (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 441 | Applied Music Instrumental or Vocal V | 1 cr. |
| MUS | 452 | Harmony III | 1 cr. |
| MUS | 453 | Sight Singing, Rhythmic Chanting, and Ear Training V | 1 cr. |
| MUE | 446 | Teaching Music at the Elementary Level | 3 cr. |
| MUS | 444 | Philology of Music | 3 cr. |
| MUS | 475 | Acoustics of Music | 3 cr. |

| | | | |
|---|---|---------------|-------|
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (18 Credits)

| | | | |
|-----|-----|---|-------|
| MUS | 451 | Applied Music Instrumental or Vocal VI | 1 cr. |
| MUS | 462 | Counterpoint and Fugue | 1 cr. |
| MUS | 463 | Sight Singing, Rhythmic Chanting, and Ear Training VI | 1 cr. |
| MUS | 455 | Orchestration | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |
| MUE | 476 | Teaching Music at Secondary Level | 3 cr. |
| MUS | 484 | Project I | 3 cr. |
| MUE | 456 | Philosophy of Music Education | 3 cr. |

Undergraduate Courses: Music Education

MUE 335 Music Education I (3.0); 3 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
A survey of the various musical education methods, such as the Orff, Dalcroze, Kodaly, Suzuki and other methods.

MUE 336 Music Education II (3.0); 3 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
Continuation and development of MUE 335. with student studies of field work.

MUE 376 Secondary Instrument (Percussion) (1.0); 1 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
Techniques on how to perform on percussion instruments. Notation of percussive instruments.

MUE 446 Teaching Music at the Elementary Level (3.0); 3 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
Writing lesson plans

MUE 456 Philosophy of Music Education (3.0); 3 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
A survey of the different schools of thought in education in general, and particularly in music education.

MUE 476 Teaching Music at Secondary Level (3.0); 3 cr. appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).
Writing lesson plans appropriate to the secondary level and applying them. Learning teaching methods suitable for the age group (12-17).

Suggested Free Elective Courses: MUS 464, MUS 474.

The Degree of Bachelor of Arts in Music – Musimedialogy Concentration

An avant-garde perspective combining music to all fields of media. Students will master the art of relaying music information via radio, TV, journalism, and the Internet.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s), during their first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to the degree courses in Musimedialogy and other majors in the Departments of the Faculty of Architecture, Art & Design.

Also, prior to admission, applicants will be subject to a practical evaluation, which covers instrument, voice and musical background.

Graduation Requirements

To receive the degree of Bachelor of Arts in Music – Musimedialogy Concentration, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in Major and Core Requirements. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 27 cr.

The GER courses are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr

Cultural Studies: Religion + four courses from the following areas: Arabic or Western Literature or Philosophy or Cultural Sequence or Art or Music, etc... 15 cr.

Basic Science: Two courses from the following areas: Environmental Science, Nutrition, Health, Astronomy, Music Archeology, Phonetics (ear and vocal cords), Geology, Psychology, etc... 6 cr.

Foundation Year 24 cr.

MUA 254, MUS 211, MUS 214, MUS 221, MUS 222, MUS 223, MUS 224, MUS 232, MUS 233, MUS 234, MUS 244, MUS 245.

The student must complete all Foundation courses with a minimum GPA of 2.3/4.0 or above. Students who fail to meet these requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Major Requirements 67 cr.

COA 252, JOU 310, JOU 370, JOU 410, JOU 480, MUM 350, MUM 354, MUM 355, MUM 437, MUM 447, MUM 448, MUM 457, MUS 324, MUS 331, MUS 334, MUS 341, MUS 342, MUS 343, MUS 352, MUS 353, MUS 382, MUS 384, MUS 441, MUS 444, MUS 452, MUS 453, MUS 454, MUS 455, MUS 475, MUS 490.

Free Electives 6 cr.

**Bachelor of Arts in Music – Musimedialogy Concentration
Suggested Program (124 Credits)**

Year I

Fall Semester (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 211 | Applied Music Instrumental or Vocal I | 1 cr. |
| MUS | 222 | Theory of Music I | 1 cr. |
| MUS | 223 | Sight Singing and Ear Training I | 1 cr. |
| MUS | 224 | History and Analysis of Western Music: Medieval – Baroque Period | 3 cr. |
| MUS | 214 | Introduction to Musicology | 3 cr. |
| MUA | 254 | History of Arabic Music I | 3 cr. |
| — | — | GER | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester (18 Credits)

| | | | |
|-----|-----|---|-------|
| MUS | 221 | Applied Music Instrumental or Vocal II | 1 cr. |
| MUS | 232 | Theory of Music II | 1 cr. |
| MUS | 233 | Sight Singing and Ear Training II | 1 cr. |
| MUS | 234 | History and Analysis of Western Music: Classical Period | 3 cr. |
| MUS | 244 | Ethnomusicology | 3 cr. |
| MUS | 245 | Musical Forms | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (9 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 331 | Applied Music Instrumental or Vocal III | 1 cr. |
| MUS | 342 | Harmony I | 1 cr. |
| MUS | 343 | Sight Singing, Rhythmic Chanting, and Ear Training III | 1 cr. |
| MUS | 324 | History and Analysis of Western Music: Romantic and Post-Romantic Period | 3 cr. |
| MUM | 355 | Audio techniques | 3 cr. |
| MUS | 382 | Methodology (research methods) of Music | 3 cr. |
| MUM | 354 | Organology of Music | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester II (18 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 341 | Applied Music Instrumental or Vocal IV | 1 cr. |
| MUS | 352 | Harmony II | 1 cr. |
| MUS | 353 | Sight Singing, Rhythmic Chanting, and Ear Training IV | 1 cr. |
| MUS | 334 | History and Analysis of Western Music: 20th Century and Contemporary Music | 3 cr. |
| MUM | 350 | Audio-Video Workshop | 3 cr. |
| JOU | 310 | Newswriting and Reporting I | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (8 Credits)

| | | | |
|-----|-----|-----------------------|-------|
| JOU | 480 | Journalism Internship | 1 cr. |
| MUS | 454 | Instrumentation | 3 cr. |
| — | — | GER | 3 cr. |
| MUS | 452 | Harmony III | 1 cr. |

Year III

Fall Semester III (17 Credits)

| | | | |
|-----|-----|--|-------|
| MUS | 441 | Applied Music Instrumental or Vocal V | 1 cr. |
| MUS | 453 | Sight Singing, Rhythmic Chanting, and Ear Training V | 1 cr. |
| MUM | 447 | Survey of Art Schools | 1 cr. |
| JOU | 370 | Newspaper production | 2 cr. |
| MUS | 444 | Philology of Music | 3 cr. |

| | | | |
|-----|-----|--------------------|-------|
| MUS | 475 | Acoustics of Music | 3 cr. |
| MUS | 384 | Research Seminar | 3 cr. |
| COA | 252 | Public Relations | 3 cr. |

Spring Semester III (18 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| MUS | 455 | Orchestration | 3 cr. |
| JOU | 410 | Newswriting and Reporting II | 3 cr. |
| MUM | 457 | Radio and Television Music Casting | 3 cr. |
| MUS | 490 | Senior Project | 3 cr. |
| MUM | 437 | Art Management | 3cr. |
| MUM | 448 | Musical Criticism | 3 cr. |

Undergraduate Courses: Musimedialogy

MUM 347 Computer and Music (3.0); 3 cr.
Introduction to different musical notation and MIDI programs.

MUM 350 Audio-Video Workshop (3.0); 3cr.
Broadcasting, diffusion, mixers, cameras, editing (Montage from classic to computerized)

MUM 354 Organology of music (3.0); 3 cr.
Music Prototype Instruments manufacture and evolution through history: Strings, winds..., ear and vocal cords.

MUM 355 Audio techniques (3.0); 3cr. AC, DC, Frequency definition, signals, frequencies modulation, AM, FM, mic – ampli – speaker, sound qualification, acoustic studio treatment and recording.

MUM 437 Art Management (3.0); 3 cr.
Business aspects of the arts; selecting suitable

musical acts for performances, providing the venue, selecting the program, promoting the act, and selling the tickets, rules and P.R. required for musician relation with consumer public and producers.

MUM 447 Survey of Art Schools (1.0); 1 cr. A course surveying the Art schools aiming at preparing the Musical Criticism.

MUM 448 Musical Criticism (3.0); 3 cr.
Writing musical critiques, reviews, and previews, of musical events.

MUM 457 Radio and Television Music Casting (3.0); 3 cr. Performing critiques, reviews, and previews of musical events, live or taped on the radio or the television.

Suggested Free Elective Courses: COA 201, COA 352

The Degree of Bachelor of Arts in Music - Arabic Musicology Concentration

بكالوريوس في الموسيقى والعلوم الموسيقية العربية (تُعطى في اللغة العربية)

A concentration in the different schools of Arabic Music, from Al-Kindi and Al-Farabi to modern era. Students will be proficient in at least one oriental instrument.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete any remedial English course(s), during the first year of enrollment. Students who fail to meet these requirements will not be allowed to proceed to the degree courses in Arabic Musicology and other majors in the Departments of the Faculty of Architecture, Art & Design.

Also, prior to admission, applicants will be subject to a practical evaluation, which covers instrument, voice and musical background.

Graduation Requirements

To receive the degree of Bachelor of Arts in Music - Arabic Musicology Concentration, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 27 cr.

The GER courses are distributed as follows:

Sophomore English: ENL 213 & ENL 230 6 cr.

Cultural Studies: Religion + four courses from the following areas: Arabic or Western Literature or Philosophy or Cultural Sequence or Art or Music, etc... 15 cr.

Basic Science: Two courses from the following areas: Environmental Science, 6 cr.

Nutrition, Health, Astronomy, Music Archeology, Phonetics (ear and vocal cords), Geology, Psychology, etc.

Foundation Year 26 cr.

MUA 218, MUA 222, MUA 234, MUA 254, MUS 211, MUS 214, MUS 221, MUS 222, MUS 223, MUS 232, MUS 233, MUS 244, MUS 245.

The student must complete all Foundation courses with a GPA of 2.3/4.0 or above. Students who fail to meet these requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Major Requirements 65 cr.

MUA 318, MUA 324, MUA 332, MUA 334, MUA 342, MUA 343, MUA 353, MUA 363, MUA 424, MUA 434, MUA 444, MUA 463, MUM 354, MUS 201, MUS 331, MUS 341, MUS 342, MUS 343, MUS 344, MUS 345, MUS 352, MUS 355, MUS 382, MUS 384, MUS 441, MUS 444, MUS 451, MUS 452, MUS 455, MUS 462, MUS 484.

Free Electives 6 cr.

Bachelor of Arts in Music - Arabic Musicology Concentration
Suggested Program (124 Credits)

Year I

Fall Semester (17 credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| MUS | 211 | Applied Music Instrumental or Vocal I | 1 cr. |
| MUS | 222 | Theory of Music I | 1 cr. |
| MUS | 223 | Sight Singing and Ear Training I | 1 cr. |
| MUS | 214 | Introduction to Musicology | 3 cr. |
| MUA | 254 | History of Arabic Music I | 3 cr. |
| MUA | 218 | Arabic Prosody; | 2 cr. |
| — | — | GER | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester (18 credits)

| | | | |
|-----|-----|---|-------|
| MUS | 221 | Applied Music Instrumental or Vocal II | 1 cr. |
| MUS | 232 | Theory of Music II; | 1 cr. |
| MUS | 233 | Sight Singing and Ear Training II | 1 cr. |
| MUS | 245 | Musical Forms | 3 cr. |
| MUA | 234 | History and Analysis of Arabic Music II | 3 cr. |
| MUS | 244 | Ethnomusicology | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (9 credits)

| | | | |
|-----|-----|------------------------|-------|
| MUA | 222 | Arabic Music Theory II | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Year II

Fall Semester (18 credits)

| | | | |
|-----|-----|--|-------|
| MUS | 331 | Applied Music Instrumental or Vocal III | 1 cr. |
| MUS | 343 | Sight Singing Rhythmic chanting and Ear Training III | 1 cr. |
| MUA | 343 | Oriental Sight Singing 1 | 1 cr. |
| MUS | 342 | Harmony I | 1 cr. |
| MUA | 332 | Arabic Music Theory III | 3 cr. |
| MUA | 324 | History and Analysis of Arabic Music III | 3 cr. |
| MUM | 354 | Organology of Music | 3 cr. |
| MUA | 318 | Qoran Chanting | 2 cr. |
| MUS | 382 | Methodology (research methods) of Music | 3 cr. |

Spring Semester (18 credits)

| | | | |
|-----|-----|--|-------|
| MUS | 341 | Applied Music Instrumental or Vocal IV | 1 cr. |
| MUA | 353 | Oriental Sight Singing 2 | 1 cr. |
| MUS | 352 | Harmony II | 1 cr. |
| MUA | 342 | Arabic Music Theory IV | 3 cr. |
| MUA | 334 | History and Analysis of Arabic Music IV | 3 cr. |
| MUS | 344 | Religious Music (Gregorian, Byzantine, and Syriac) | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session (9 credits)

| | | | |
|-----|-----|---|-------|
| MUS | 345 | History and Analysis of Western Music: from Medieval to Classic | 3 cr. |
| MUS | 201 | Music Archeology | 3 cr. |
| — | — | GER | 3 cr. |

Year III

Fall Semester (18 credits)

| | | | |
|-----|-----|--|-------|
| MUS | 441 | Applied Music Instrumental or Vocal V | 1 cr. |
| MUS | 452 | Harmony III | 1 cr. |
| MUA | 363 | Oriental Sight Singing and Ear Training 3 | 1 cr. |
| MUA | 424 | History and Analysis of Arabic Music V | 3 cr. |
| MUS | 355 | History and Analysis of Western Music: from Romantic to Contemporary | 3 cr. |

| | | | |
|-----|-----|--------------------|-------|
| MUS | 444 | Philology of Music | 3 cr. |
| MUS | 384 | Research Seminar | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester (17 credits)

| | | | |
|-----|-----|---|-------|
| MUS | 451 | Applied Music Instrumental or Vocal VI | 1 cr. |
| MUA | 463 | Oriental Sight Singing and Ear Training 4 | 1 cr. |
| MUS | 462 | Counterpoint and Fugue | 1 cr. |
| MUA | 444 | History and Analysis of Arabic Music VI | 3 cr. |
| — | — | Free Elective | 3 cr. |
| MUS | 484 | Project I | 3 cr. |
| MUS | 455 | Orchestration | 3 cr. |
| MUA | 434 | Arabic Musical Forms | 2 cr. |

Undergraduate Courses: Arabic Musicology

MUA 218 Arabic Prosody (2.0); 2 cr. (علم لأوزان الشعر العربية العربية وإيقاعاتها، موسيقى الشعر (العروض

MUA 222 Arabic Music Theory II (3.0); 3cr. حليل معمقة للنظريات الموسيقية (نظريات الموسيقى العربية)2). العربية: المقامات المركبة والإيقاعات المركبة.

Prerequisite: MUA 227.

MUA 227 Arabic Music (3.0); 3 cr. (Theory, Maqamat, rhythms and forms).

MUA 234 History and Analysis of Arabic Music II (3.0); 3cr. Al-Kindy - Andalusian music

MUA 254 History of Arabic music I. (3.0); 3cr. A general survey of the history of of Arabic music from the beginning to the contemporary era.

MUA 318 Qoran Chanting(2.0); 2 cr. (الانشاد القرآني)

MUA 324 History and Analysis of Arabic Music III (3.0); 3cr. Al-Farabi.

MUA 332 Arabic Music Theory III (3.0); 3 cr. تحليل مؤلفات عربية كلاسيكية واستخراج النظريات الموسيقية العربية: المقامات المركبة والإيقاعات المركبة منها .

MUA 334 History and Analysis of Arabic Music IV (3.0); 3 cr. Ibn Sina, Al-Ikhawan Al-Safa, Ibn Rushd.

MUA 342 Arabic Music Theory IV (3.0); 3 cr. (يلي نظريات الموسيقى العربية 3 وتحليلها)

MUA 343 Oriental Sight Singing 1 (1.0); 1 cr. صولفيج شرقي 1

MUA 353 Oriental Sight Singing 2 (1.0); 1 cr.2 صولفيج شرقي . *Prerequisite:* MUA 343.

MUA 363 Oriental Sight Singing & Ear Training 3 (1.0); 1cr. 3 صولفيج شرقي . *Prerequisite:* MUA 353.

MUA 424 History and Analysis of Arabic Music V (3.0); 3cr. Cairo Congress of Arabic Music 1932-1934 Michael Moushaqa and contemporary theorists.

MUA 444 History and Analysis of Arabic Music VI (3.0); 3 cr. Arab Renaissance-Modern Arabic Music.

MUA 463 Oriental Sight Singing & Ear Training 4 (1.0); 1 cr. (4 صولفيج شرقي) *Prerequisite:* MUA 363.

MUA 477 Andalusian Music (3.0); 3 cr. (الوزن الشعري للموشحات الأندلسية والموسيقى الناتجة عنه) في الحقبة الأندلسية ؛ ومميزات هذه الموسيقى من حيث النغم والشكل والإيقاع وانتقالها من الأندلس الى المغرب العربي ثم (...الى حلب ومصر).

Suggested Free Elective Courses: MUM 347, MUS 475.

The Degree of Master of Arts in Music

Graduate study in musicology covers approaches such as historical and ethnomusicological investigation as well as hermeneutics, semiotics and criticism. Students are expected to become familiar with a wide range of areas: methods, philosophies and techniques of historical research methods for analysis of music and ethnomusicological research.

Students enrolled in the program are expected to familiarize themselves with the current state of musicological research and thinking through independent study as well as in consultation with faculty members. Students are also expected to take an active part in the working musicological community at large, through participation in regional, national, and international meetings and concomitant informal contacts with students and faculty at other institutions.

The program aims:

- To develop and sharpen the skills each student needs to realize his or her future specialization intentions;
- To expand each student's conception of what is possible in construing music performance or research through speculation and experimentation;
- To develop a larger and sharper sense of the context in which the students work, and on which it depends by continued study and research.

Admission Requirements

Applicants will normally hold a bachelor degree in music or an equivalent qualification. They need to submit an extended piece of writing on a musical subject in order to provide evidence of writing skills and intellectual ability appropriate for musicological study at master's level. An English test is required except for students majoring in Arabic music. Selection is based on information submitted by the applicant, and by interview when necessary.

Transfer

Although transfer is not generalized, some credits from major universities can be transferable upon admission by the Committee. A transferred course must be passed at the grade of 80 according to the NDU grading and University bylaws.

In addition, applicants for the graduate program may be granted a maximum of nine transfer credits of graduate studies taken at another accredited institution of higher education provided that the transfer course(s) correspond to the NDU course requirements.

Graduation Requirements

To receive the degree of Master of Arts in Music, a student must complete a total of 36 credits with a minimum cumulative grade point average of 3.0/4.0 in all Major Courses.

Structure and Time-table

The program is delivered over four semesters. All students, whether full- or part-time, initially complete the program requirements, and attend the research method course. Classes are normally timetabled in the afternoons.

The program moves from general methodological concerns towards greater specialisations.

1. Research methodology.
2. Academic study. All students are required to take courses in Musical Thought, languages and aesthetics.
3. Dissertation. Here students embark on a programme of independent study, supervised by a dissertation advisor.

**Degree Requirements
(36 Credits)**

Major Courses

36 cr.

MUS 615, MUS 616, MUS 617, MUS 625, MUS 626, MUS 627, MUS 636, MUS 637, MUS 638, MUS 639, MUS 699.

**The Degree of Master of Arts in Music
Suggested Program (36 Credits)**

Year I

Fall Semester I (9 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| MUS | 615 | Methodology Research | 3 cr. |
| MUS | 616 | Seminar in Musicology I | 3 cr. |
| MUS | 617 | Seminar in Musicology II | 3 cr. |

Spring Semester I (9 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| MUS | 625 | Seminar in Ethnomusicology I | 3 cr. |
| MUS | 626 | Seminar in Ethnomusicology II | 3 cr. |
| MUS | 627 | Art Criticism | 3 cr. |

Year II

Fall Semester II (9 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| MUS | 636 | Aesthetic Philosophy | 3 cr. |
| MUS | 637 | Modern Music: 1900 - 1960 | 3 cr. |
| MUS | 638 | Serial Music | 3 cr. |

Spring Semester II (9 Credits)

| | | | |
|-----|-----|--------------------|-------|
| MUS | 639 | The Music Industry | 3 cr. |
| MUS | 699 | Thesis | 6 cr. |

Graduate Courses: Music

MUS 615 Methodology of Research (3.0); 3cr.

The students learn the art of writing the MA thesis. In this course, students will use a variety of methods, skills and sources including but not limited to qualitative and quantities information, i.e. documentation techniques. Students will need to focus on the application side of methodological techniques and international theory displaying the ability to analyze, discover and evaluate and using the actual archives, musicological tools and technology and other source or reference material.

MUS 616 Seminar in Musicology I (3.0); 3cr.

Original work in areas of current musicological significance will be presented to and reviewed by the seminar as the occasion arises. Emphasis is given to student projects, but work in progress by any member of the seminar may be discussed or a topic of particular controversy examined.

MUS 617 Seminar in Musicology II (3.0); 3cr.

Student chose a free subject related to his/her one musical interest that he may specialize in for his/her PhD.

MUS 625 Seminar in Ethnomusicology I (3.0); 3cr.

Research Methods in Ethnomusicology: Musical Ethnography, an introduction to the theories and methods of ethnomusicological fieldwork, including changing conceptions of the research site, ethical concerns, interview techniques, the ethnography of musical performance, and data analysis and interpretation. Individual research project required.

MUS 626 Seminar in Ethnomusicology II (3.0); 3cr.

Ethnomusicology: *Theory and Structure of oriental or occidental Classical Music*. Students analyze rhythmic and melodic structures of musical genres and forms, examine relative explanatory tools and assess alternate theories of Music material.

MUS 627 Art Criticism (3.0); 3cr.

This course studies the methods used by various schools of art criticism throughout history with special emphasis on helping the students to see how technology and the diversity of languages in

modernity have influenced contemporary methods of art criticism.

MUS 636 Aesthetic Philosophy (3.0); 3cr.

This course investigates the fundamental nature or soul of art and aesthetic experience. Students explore and scrutinize the artistic theories and aesthetic principles that are presupposed in both Western and Eastern art. This course provides students with both a personal appreciation of aesthetics, as well as a basic ability to apply this appreciation to art criticism.

MUS 637 Modern Music: 1900 – 1960 (3.0); 3cr.

A survey of major works from occidental music, spanning the first six decades of the 20th century. Divided into three periods: 1900 to World War I; WWI to WWII; and 1945 to the early 1960s. The following composers receive greatest attention: Schoenberg, Berg, Webern, Ravel, Stravinsky, Prokofiev, Shostakovich, Ives, Britten, Messiaen, Stockhausen, and Carter. By studying the great masters of modern music, the student would learn how to discern their creations in order to produce and apply his/her own particular musical language using new elements of his/her own cultural content.

MUS 638 Serial Music (3.0); 3cr.

A critical examination primarily of twelve-tone serialism. Particular emphasis is given to the relations embodied in the twelve-tone set and its transformations, associated invariants, combinatorial, derivation, and aggregate structure, with reference to representative compositional realizations. The dimensions and the levels of structure that do not necessarily manifest set relations are also examined.

MUS 639 The Music Industry (3.0); 3cr.

The course will assist the student to invent and invest in music. It prepares the student for a more fruitful interaction with the present techniques and music technology by managing the world of sound from the microphone to the commercial music items.

MUS 699 Thesis (6.0); 6cr.

A dissertation of around 15,000 words on an agreed subject is required.

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS (FBAE)

Dr. Elie Yachoui, *Dean*

DEPARTMENT OF ACCOUNTING, FINANCE AND ECONOMICS

Dr. Mohamad Hamadeh, *Chairperson*

DEPARTMENT OF MANAGEMENT AND MARKETING

Dr. Atef Harb, *Chairperson*

DEPARTMENT OF HOSPITALITY AND TOURISM MANAGEMENT

Dr. Youssef Zgheib, *Chairperson*

GRADUATE PROGRAM

Dr. Rock-Antoine Mehanna, *Director*

FACULTY DIRECTORY

Office of the Dean

HB Building, 2nd Floor, Room B 330
Tel: 09–218950/51/52, Extension 2488
Email: eyachoui@ndu.edu.lb

Department of Accounting, Finance and Economics

HB Building, 2nd Floor, Room B 336
Tel: 09–218950/51/52, Extension 2489
Email: mhamade@ndu.edu.lb

Department of Management and Marketing

HB Building, 2nd Floor, Room B 338
Tel: 09–218950/51/52, Extension 2467
Email: aharb@ndu.edu.lb

Department of Hospitality and Tourism Management

HB Building, 2nd Floor, Room B 341
Tel: 09–218950/51/52, Extension 2484, 2486
Email: yzgheib@ndu.edu.lb

Office of the Director of Graduate Program

HB Building, 2nd Floor, Room HB 352
Tel: 09–218950/51/52
Email: ramehanna@ndu.edu.lb

The Faculty of Business Administration and Economics reserves the right to change a program of study without prior notice.

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

LIST OF FULL-TIME FACULTY MEMBERS

Professors

Yachoui, Elie, Ph.D., 1982, *Economics*, Dauphine, France

Hobeika, Louis, Ph.D., 1980, *Economics*, University of Pennsylvania, USA

Associate Professors

Hadjetian, Hratch, Ph.D., 1972, *Economics and Labor-Management Relations*, University of Delhi, India

Karam, Antoine, Ph.D., 1974, *Economics*, Temple University, USA

Hamadeh, Mhamad, Ph.D., 1998, *Economics*, Syracuse University, USA

Mehanna, Rock-Antoine, Ph.D., 2000, *Business Policy*, Southern University, Baton Rouge, Louisiana, USA

Naimy, Viviane, Ph.D., 2001, *Economics and Finance*, Université de Paris XI, France

Assistant Professors

Akhras, Caroline, Ph.D., 2007, *Doctor of Education*, University of Leicester, UK

Hamadi, Hassan, Ph.D., 2005, *Finance*, University of Surrey, UK

Harb, Atef, Ph.D., 1996, *Economics-Operations Research*, Ecole Polytechnique de Montreal, Canada

Hasham, Elham S., Ph.D. 2004, *Educational Leadership, Management and Administration*, Leicester University, United Kingdom.

Khalil, Antoine, M.B.A., 1981, *Finance*, Pace University, USA

Khoueiri, Roy, Ph. D. 1989, *Economics*, Université Paris 13, Paris Nord, France

Saber, Rashid, Ph.D., 1998, *Marketing and Management*, California Coast University, USA

Zgheib, Youssef, Ph.D. 2002, *International Hospitality Management*, University of Strathclyde, Scotland, UK

Senior Lecturers

Barakat, Edgard, M.B.A., 1981, *Marketing*, University of Dayton, USA

Frayha, Norma, M.B.A., 1982, *Accounting*, American University of Beirut, Lebanon

Hovivian, Hrair, M.S., 1984, *Finance and Economics*, Beirut University College, Lebanon

Shaffu, Raja, M.B.A., 1970, *Finance*, American University of Beirut, Lebanon

Zakhour, Kamal, M.B.A., 1982, *Marketing*, University of Pittsburgh, USA

Lecturer

Assaf Carole, M.B.A., 1995, *Tourism and Marketing*, Notre Dame University - Louaize, Lebanon

Assaker, Guy, MBA, 2003, *Hospitality Management*, IMHI Cornell University/ Essec, France. MSc (DESS), 2004, *Tourism*, Université Paris 1, Sorbone

Beyrouthy, Ghassan, M.B.A., 1999, *Hospitality Management and Tourism*, Notre Dame University - Louaize, Lebanon

Menassa, Joyce, M.S., 1984, *Marketing*, Beirut University College, Lebanon

Nakhlé, Vivianne, M.S., 1993, *Business Administration*, Strayer College, Washington D.C.

List of Staff Members

Cattan, Ghada, Diploma, ECP-V, 1995, USEK, Lebanon, *Administrative Assistant to the Dean*

Moubarak, Kamale, Certificate, *Business Marketing*, DCE-NDU, *Secretary, Department of Accounting, Finance and Economics*

Kanaan, Grace, Secretarial Studies, 1982, Ecole Pigier pour le Commerce, Gemmeyze – *Secretary, Department of Management and Marketing*

Mrad, Samar, Bachelor of Arts in Business Administration-International Business Management, 2004, Notre Dame University, *Secretary, Department of Hospitality and Tourism Management*

Khalil, Rita, *Executive Secretary 1989*, Clerk

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: *Dr. Elie Yachoui*

Administrative Assistant: *Mrs. Ghada Cattan*

INTRODUCTION

The Faculty of Business Administration and Economics is a professional faculty. It offers a range of academically balanced programs to meet the needs of the various sectors of the economy. The programs of study are dynamic to keep pace with the rapidly evolving environment of business, management, hospitality, tourism and technology. The qualified and experienced academics at the Faculty are dedicated to providing theoretical and practical knowledge of high standard in a stimulating atmosphere. That is why the Faculty, in a short time, has developed to become a major provider of high quality business and management leaders.

Faculty Objectives:

The primary objectives of the Faculty are:

- To serve the community by providing programs of study that are professionally oriented, comprehensive, relevant to today's business world, and of high standard.
- To prepare well-rounded business graduates who are equipped with analytical, quantitative, managerial and human skills to make sound and responsible decisions.
- To develop business graduates who are aware of the connection between business-management decisions and political, social, economic, legal, ethical, technological and environmental factors.
- To develop business graduates who are able to identify management and organizational problems, isolate critical factors, generate feasible alternatives and, after critical thinking and analysis, come up with the most appropriate solution.

Summary of Degree Programs Offered

The Faculty of Business Administration and Economics consists of:

- Department of Accounting, Finance and Economics
- Department of Management and Marketing
- Department of Hotel Management and Tourism

The Department of Accounting, Finance and Economics offers programs leading to the degrees of Bachelor of Business Administration with emphasis on:

- Accounting areas: Accounting Information Systems, General Accounting, Management Accounting and Control, Auditing.
- Finance areas: Investment management, Corporate Finance, Real Estate, banking, Personal Financial Planning, General Finance.
- Economics

The Department of Management and Marketing offers programs leading to the degree of Bachelor of Business Administration (B.B.A.) and the degrees of Bachelor of Business Administration with concentrations on:

- Management
- International Business Management
- Marketing

The Bachelor's degree is a three-year and two-summer program of full-time study.

The Department of Management and Marketing also offers a program leading to the degree of Master of Business Administration (M.B.A.).

The Master's degree follows a two-year full-time program or its equivalent in part-time work.

The Department of Hotel Management and Tourism offers a program leading to the degree of Bachelor of Hotel Management and Tourism. This degree is a three-year and two-summer program of full-time study.

Undergraduate Degrees

Admission Procedures and Requirements

For admission procedures and requirements to the undergraduate degree programs offered by the Faculty of Business Administration and Economics, see the appropriate page numbers in this catalog.

Registration Procedure

For registration procedure for newly admitted and old students, late registration, course load, withdrawal from courses, and change of courses, see the appropriate page numbers in this catalog.

Undergraduate Degree Curricula

I. Bachelor of Business Administration (B.B.A.)

All candidates for the degrees offered by the Department of Accounting, Finance and Economics and the Department of Management and Marketing must satisfy the following curricula:

A- General Education Requirements

It is strongly believed that graduating business students should have a well-rounded education irrespective of their area of study. For this reason all candidates for a Bachelor's degree must complete a set of courses chosen from a wide range of academic disciplines: religion, English, environmental science, Arabic, computer science, psychology, sociology, history, and political science. The purpose of these courses is to provide basic skills which are essential to success, to clear communication orally and in writing, and to the breadth and depth of education.

B- Required Common Core courses

All candidates for the B.B.A. degree, irrespective of their area of concentration, must complete the following required common courses. These courses are designed to provide business students with basic management skills - quantitative, behavioral, and technical - which every manager should possess in order to meet the demanding requirements of modern business organizations and to be able to face new challenges. The courses are:

| | | |
|-----|-----|--|
| ACO | 201 | Principles of Accounting I ¹ |
| ACO | 202 | Principles of Accounting II ¹ |
| ACO | 311 | Managerial Accounting ² |
| BAD | 201 | Fundamentals of Management |
| BAD | 311 | Business Law |
| BAD | 323 | Software Tools for Bus. Application |
| BAD | 453 | e-Business |

¹ Minimum passing grade is C.

² Not required from majors in the Marketing and Management Department. Instead, it is substituted with BAD 433.

| | | |
|-----|-----|---|
| BAF | 311 | Principles of Financial Management I ¹ |
| ECN | 211 | Principles of Microeconomics ¹ |
| ECN | 212 | Principles of Macroeconomics ¹ |
| ECN | 333 | Managerial Economics |
| MRK | 201 | Fundamentals of Marketing |
| STA | 206 | Applied Statistics for Bus. and Eco. I |
| STA | 207 | Applied Statistics for Bus. and Eco. II |
| MAT | 204 | Math for Business and Economics I |
| MAT | 205 | Math for Business and Economics II |

C- Major Requirements

Those B.B.A. candidates should complete certain concentration courses specified by their respective departments. Together with the common required courses, these courses provide some depth in one particular area of business. For the courses required for each concentration, see the concerned degree requirements.

D- Free Electives

Business students have the opportunity to choose six credits offered by any Faculty to satisfy their non-business interests, diversify their background, and even be of additional business knowledge.

Internship Program

Internship provides an opportunity for business majors to test and utilize theories learned in the classroom. It gives valuable on-the-job experience, and facilitates finding employment. The internship should be related to the students' majors, and should consist of a specific project. Seniors are placed in the offices of cooperating firms under the supervision of staff of the firm. The student earns 1 credit. To earn this credit, the intern should work for at least 350 hours. He/she should keep a record for hours worked signed by his/her direct supervisor. He/she should present periodic reports and at the end of the internship, he/she should write a 10-page report on the internship, verified by the authorized supervisor. It is preferable to have the internship in the summer.

Additional details are available with the internship advisors.

II. Bachelor of Hotel Management and Tourism

All candidates to the degree of Bachelor of Hotel Management and Tourism must satisfy the following curricula:

A- General Education Requirements

The general education requirements are the same as for the Bachelor of Business Administration, in as long as they contribute to widen the candidate's professional, societal and personal perspectives.

B- Major Requirements

All candidates for the Bachelor of Hotel Management and Tourism degree have to complete a 17 3-credit courses as specified by the Department, 2 courses of Lab application, and an Internship to be preferably taken during the summer vacation. These courses provide the core Business, and Hospitality and Tourism operational skills needed prior to choosing a field of concentration.

C- Concentration Requirements

Consists of six 3-credit courses and 1 Internship depending on the chosen concentration and the candidates preferred sub-specialization. These courses are to equip students with advance knowledge in their future professional field.

D- Electives

In addition to the major requirements, candidates need to fulfill 3 credits as free electives according to their personal interests.

Academic Rules and Regulations

For complete and detailed information regarding academic rules and regulations for the undergraduate degree programs, students should refer to the appropriate page numbers in this catalog. The following additions and amendments pertain to the Faculty of Business Administration and Economics.

Repeating Courses

A student in the Faculty of Business Administration and Economics cannot register for a core or major course more than three times. At the third attempt, if the student still fails to get a passing grade, he/she should shift to another major or Faculty.

Academic Probation

A student in the Faculty of Business Administration and Economics will be placed on academic probation if at the end of a semester his/her overall GPA falls below 2.0/4.0.

Dropping a Major

A student in the Faculty of Business Administration and Economics who is on probation and fails at the end of a semester or summer session in two or more core and/or major courses, will be asked to change his/her major. Also, a student will be asked to change his/her major or Faculty if his/her GPA in the core and major courses drop below 2.0/4.0 for two consecutive semesters, provided he/she has completed 15 credits in the core and major courses.

Readmission

A business student who was asked to change his/her major or his/her Faculty of study due to poor performance in his/her major will not be readmitted in the same major or in the Faculty.

Change of Major

A change of major to the Faculty of Business Administration and Economics may be approved if the student meets the admission requirements and academic standards established by the Faculty. The student should follow the latest program of the new major.

Incomplete Grade

This grade is used only when the student, for reasons beyond his/her control, is unable to finish the work of the course, and there is reasonable expectation that he/she will successfully complete course requirements. If this grade is not resolved by the end of the eighth week of the following semester, the Registrar's Office will convert the "I" to "F". Granting "I" needs the prior approval of the Dean of the Faculty.

Graduate Degree – Master of Business Administration (MBA)

The graduate program of the Faculty of Business Administration and Economics was established in 1992. It was revised last in June 2004 to be effective for the Fall semester 2004. The program is designed to provide advanced business and management studies for students who have shown distinct academic ability and for practicing managers who aim at higher achievement in their present position.

The objectives of the program are:

- To provide advanced knowledge and skills in management and the capability to apply them;

- To develop the graduates' capacity for independent study and continued professional growth;
- To form graduates who are able to think logically and critically, and are able to apply analytical tools to decision making.
- To form graduates who can adapt to rapidly changing business and technological environments and are able to make flexible adjustments;
- To develop in graduates the desire for continued self-improvement.

Students may attend on a full-time or part-time basis. All the courses are offered after 4:30 p.m. to allow the student to complete the program on a part-time basis. The program is a two-year full-time course of study or its equivalent in part-time work.

Instructional methods include regular lectures, seminars, case studies, field work, and lectures by guest speakers.

Although the graduate program is designed as a terminal degree program, the graduates are well prepared to pursue higher degrees in business and finance.

Admission Procedure

For admission procedures to the graduate degree program offered by the Faculty of Business Administration and Economics, see the appropriate page numbers in this catalog.

Admission Requirements

MBA applicants are accepted based on their undergraduate GPA, work experience, and/or seminars or special business courses taken if applicable.

The MBA remedial courses are:

- ACO 500 Fundamentals of Financial Accounting
- BAD 500 Fundamentals of Management
- BAF 500 Fundamentals of Financial Management
- ECN 500 Fundamentals of Micro and Macro Economics
- HTM 500 Fundamentals of Hospitality Management and Tourism
- STA 500 Applied Statistics for Business and Economics

BBA holders with GPA above 3.0/4.0

- Applicants are admitted.

BBA holders with GPA between 2.7/4.0 and 2.99/4.0

- Applicants are admitted on probation, which means that after completing 12 credits the student should obtain a minimum cumulative GPA of 3.0/4.0, otherwise he/she will be dismissed from the program.
- Applicants may be required to take up to three remedial course(s) in which the student got a grade of C or below during his/her undergraduate studies. The student should obtain a minimum cumulative GPA of 3.0/4.0 on the remedial courses before he/she can pursue the MBA studies.

None BBA holders with GPA above 3.0/4.0

- Applicants are admitted with Remedial course(s). The student should obtain a minimum cumulative GPA of 3.0/4.0 on the remedial courses before he/she can pursue the MBA studies

None BBA holders with GPA between 2.7/4.0 and 2.99/4.0

- Applicants are admitted on probation, which means that after completing 12 credits the student should obtain a minimum cumulative GPA of 3.0/4.0, otherwise he/she will be dismissed from the program.

- Applicants should be assigned Remedial course(s). The student should obtain a minimum cumulative GPA of 3.0/4.0 on the remedial courses before he/she can pursue the MBA studies.

BBA and none BBA holders with GPA between 2.3/4.0 and 2.69/4.0

- Applicants are allowed to enroll as special student.
- The student will be given a minimum of 4 remedial courses. The student should pass the remedial courses with a minimum cumulative GPA of 3.0/4.0, otherwise he/she will not be accepted to the MBA program.
 - If accepted, the student should obtain a minimum cumulative GPA of 3.0/4.0 upon completing 12 credits, otherwise he/she will be dismissed from the program.
- Minimum professional work experience in the business field is a plus.
- Reputation of the university of origin.

The GMAT, Graduate Management Admission Test, should be taken prior to completing 18 credits. No Petitions are required prior to the 18 credits. Petitions may be submitted, studied and accepted on exceptional cases after completing 18 credits for one last additional semester.

***Applicants from institutions where English is not the language of instruction, a minimum of 600 in the English Entrance Test.**

Registration Procedure

For registration procedure to the graduate program, see corresponding pages in this catalog.

Graduate Degrees

Starting with Fall 2004, candidates for the MBA degree can pursue an MBA with a concentration in the following areas: Finance, Economics, Marketing, Management and Strategy, Hotel Management and Tourism, Human Resources Management, Project and Operations Management and International Management. For the non-thesis option, the student should complete 36 semester hours of regular course work plus a 3-credit research project. For the thesis option, the student should complete 33 semester hours of regular course work plus a six-credit thesis.

The details of the graduate degree curricula are given below.

Academic Rules and Regulations

For complete and detailed information regarding academic rules and regulations of the graduate degree programs, students should refer to corresponding pages in this catalog. The following additions and amendments pertain to the Faculty of Business Administration and Economics.

It is the responsibility of the graduate student to read and observe the academic rules and regulations set by the University and the Faculty. Ignorance of a rule or a regulation is not a justification for not applying that rule.

Course Load

The maximum course load for a full-time student is 12 credits per semester and for a part-time student 6 credits.

Academic Advisor

Each graduate student shall be assigned an academic advisor to assist him/her in the preparation of the plan of study and in selecting a supervisor for his/her thesis. However, it is the student's ultimate responsibility to insure that all graduation requirements are met.

Repeating Graduate Courses

A graduate course may be repeated only once. In the calculation of the student's cumulative GPA, only the higher grade is considered.

Dismissal from the Graduate Program

A graduate student will be dismissed from the program for one of the following reasons:

- Failure to remove probation at the end of the semester that follows the placement on probation.
- Getting two "*F*"s or three grades below "*B*".
- Failing the research project or the thesis defense twice.

DEPARTMENT OF ACCOUNTING, FINANCE AND ECONOMICS

Chairperson: *Dr. Mohamad Hamadeh*

Secretary: *Mrs. Kamale Moubarak*

Professors

Yachoui, Elie, Ph.D., 1982, Dauphine, France

Economics

Hobeika, Louis, Ph.D., 1980, University of Pennsylvania, USA

Economics

Associate Professors

Hadjetian, Hratch, Ph.D., 1972, University of Delhi, India

Economics and Labor-Management Relations

Hamadeh, Mohamad, Ph.D., 1998, Syracuse University, USA

Economics

Karam, Antoine, Ph.D., 1974, Temple University, USA

Economics

Naimy, Viviane, Ph.D., 2001, Université de Paris XI, France

Economics and Finance

Assistant Professors

Hamadi, Hassan, Ph.D., 2005, University of Surrey, UK

Finance

Khalil, Antoine, M.B.A., 1981, Pace University, USA

Finance

Khoueiri, Roy, Ph. D. 1989, Université Paris 13, Paris Nord, France

Economics

Senior Lecturers

Frayha, Norma, M.B.A., 1982, American University of Beirut, Lebanon

Accounting

Hovivian, Hrair, M.S., 1984, Beirut University College, Lebanon

Finance and Economics

Shaffu, Raja, M.B.A., 1970, American University of Beirut, Lebanon

Finance

Designing a professional BBA program at the Department of Finance, Accounting, Finance and Economics (DAFE)

It is somewhat difficult to suggest a typical three years and a half program in Business, because each student's program should be specifically tailored to his or her needs and interest. This revised program in the DAFE lends itself easily to a certain degree of specialization, as is the recent trend with an increasing number of American Universities. Students considering graduate work in business, computer, law or engineering will find the training received in any of the different BBA degrees in the department to be quite valuable.

In Accounting, Finance, and Economics, the Department offers major Business/Economics elective courses for students who want to deepen and sharpen the focus of their major. In addition, students can pursue their course / job interest by working with their respective advisors on choosing faculty elective courses in the following areas: General Finance, Investment, Corporate Finance, Banking, Real Estate Finance, Financial Planning,

Accounting Information Systems, General Accounting, Management Accounting and Control, Auditing, and Economics.

Graduate schools of business are now primarily looking for students' background that focuses on both writing and quantitative skills. Thus an appropriate business program would balance liberal arts and business contents, and the judicious use of mathematical concepts, methods, and techniques. The DAFE business curriculum provides such a program.

Not all courses listed in the suggested program below will necessarily be offered in any given semester, or year. New courses will be gradually offered when appropriate and when the human resources needs are secured.

In the required common courses, a new course, E-Business, is now added, a course which is a must for any business curriculum in these days. Also two Math courses for Business and Economics have been added because, as experience has shown, many of our incoming students are ill-prepared in Math.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration – Finance, Accounting, Economics, Financial Engineering or Energy Economics Concentrations must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the common core and major requirements. These 106 credits are divided into: General Education Requirements, Common Core Requirements, Major Requirements, Faculty Electives, Free Electives. In addition, the passing grade for Principles of Accounting I and II, Principles of Microeconomics and Macroeconomics, and Principles of Financial Management I, is “C”. The passing grade for remedial Math courses is “C”. Students are strongly advised to plan in advance their courses for the entire program.

Admissions Requirements

Applicants must pass the Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by the Lebanese Ministry of Education. They are required to sit for an English Entrance Test (EET) or TOEFL. Mathematics Entrance Exam Test is required from all High School students. Upon the Entrance Exam results accepted students may be assigned MAT 001 and / or MAT 100 and / or MAT 105 by the Admissions Committee in light of their scores on the Math entrance exam.

The Degree of Bachelor of Business Administration (BBA)

Objectives

The purpose of the Bachelor of Business Administration BBA is to provide students with the skills necessary to meet the Business demands of the future in a variety of organizational settings. Specifically, a graduate of this major should be able to:

- Develop initial thinking, analytical, problem solving, and decision making skills.
- Develop human relation skills and successfully apply those skills to a variety of business situations.
- Evaluate and use professional literature.
- Understand the international arena and its place in current business environment.
- Know the components of continuous business process improvement.
- Increase individual knowledge and understanding of self and other in the work environment.
- Develop the ability to plan, organize, direct and control within an organizational environment.
- Understand how modern business functions.

- Develop specific business skills (e.g. Economics, Accounting, Finance, etc...) critical to effective and efficient management.

General Description

A degree in Bachelor of Business Administration in the Department of Accounting, Finance & Economics requires 106 credit hours. No minor or second major is required. A common body of knowledge is required of all students majoring in the Department of Accounting, Finance & Economics. Students are required to supplement the required courses with a number of Business and non-business elective courses. By carefully selecting these elective courses, students may develop a program of study that fits with their interests and career preparation needs. In order to maximize the benefits of their program, students are strongly encouraged to work closely with their assigned advisor in developing their program of study.

If students are unsure of career goals, as a Business Administration student you will have an opportunity to take a variety of business courses to see what type of work might appeal to you most.

Career Opportunities

The career opportunities for Finance, Accounting & Economics majors are varied and challenging. The program of study prepares graduates for decision – making positions in both the public and private sectors. So many graduates accept positions within the banking industry, including local and international commercial banks and governmental agencies. The majority of these opportunities require indepth knowledge of finance and a solid foundation in analytical and communication skills. Graduates have also found career opportunities with major corporations and private enterprises here in Lebanon and specially in the Gulf countries. Below are just a few of the careers from which students may choose:

Finance

- Corporate Financial Manager
- Commercial Bank Officer
- Financial Planner
- Management Consultant
- Financial Analyst
- Investment Manager
- Bank Examiner
- Credit Analyst
- Loan Officer
- Real Estate Appraiser and Broker
- Estate Management Officer
- Real Estate Developer
- Real Estate Consultant
- Stockbroker
- Mortgage lending
- Insurance: sales representative
- Securities: sales representative
- Investment counselors

Accounting

- Corporate Accountant
- Public Accountant
- Tax Accountant
- Auditor

- Accountant Consultant
- Tax Reporter and Planner
- Accounting System Designers
- Accounting System Auditors
- Industrial Accountants

Economics

- Economics Department of Large Corporations
- Government and Government Agencies; Departments of treasury, agriculture and labor
- Career in Financial Institutions
- Career in Research and Consulting Firms
- Career in the Central Bank as bank examiner and the Public Sector inside and outside Lebanon such as Foreign Service

Energy Economics

- Governments
- Utilities
- Energy companies
- Consulting firms
- Organizations concerned with energy

Financial Engineering

- Financial Market as dealers
- Foreign Exchange Firms
- Financial Risk Analysis and Management
- Stock-Brokering
- Training Management
- Portfolio Management
- Mergers and Acquisitions
- Investment Analysis
- Central Banking
- Banking
- Financial Product Development
- Insurance Companies
- Diversified Financial Services Companies

Activities

Faculty at the Department of Accounting, Finance & Economics believe it is important to expose you to a variety of practical and theoretical aspects of business, then give you an opportunity to apply your newly gained knowledge in business situations.

For that reason, the Department along with the Student Affairs Office, sponsor student organizations. In addition the Department uses faculty help to place students in internships, and invites visiting executives and scholars to campus.

Being involved in organizations will allow students to plan, budget and share responsibilities for projects and events. You can learn to manage meetings, deal with conflict, motivate peers of different personalities, express opinions and follow through to the last detail. Student organizations also provide the opportunity to start networking with business professionals and to meet students with similar interests.

As students progress in their studies, they will participate in an internship. Internships give students an opportunity to apply classroom knowledge in a variety of part-time, business –

related jobs. Students might be placed in an entry – level position in a bank, corporation or insurance company. Following graduation, some students find full-time positions with the companies that sponsor their internships.

General Education Requirements **27 cr.**

CSC 201, REG 212 or REG 213, ARB 211 or ARB 231, ENL 213, ENL 230, and two courses (6 cr.) from the following: ENS 201, ENS 202, ENS 206 NTR 201, HEA 201, BIO 202, BIO 203, AST 201
Choose two (2) courses from the following
HIT 211, HUT 305 or HUT 306, PHL 311, POS 201, PSL 201, SOL 201

Required Common Core Courses **48 cr.**

ACO 201¹, ACO 202¹, ACO 311, BAD 201, BAD 311, BAD 323, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, ECN 333, MRK 201, MAT 204, MAT 205, STA 206, STA 207

The Degree of Bachelor of Business Administration - Finance

The major in Finance is designed to develop an understanding of the financial aspects of the contemporary economy, the operations of financial institutions and markets, and the financial management of business operations. The major develops analytical skills in the planning, management and control of financial resources to achieve the financial goals of the organization. Central to this task is the evaluation of the risk and return consequences of finance decisions. The major financial decisions studied are selection of assets, (equipment, buildings, inventories, securities, etc,...) and among financing alternatives (selling stock, borrowing from a bank, issuing bonds, etc...)

Finance majors will become familiar with computer applications in finance, and will know how to access and utilize financial information; they are increasingly taking and passing the Chartered Financial Analysts (CFA) examination and the Certified Financial Planner (CFP) examination. The program in Finance and related fields provide the practical and theoretical background needed to succeed in the dynamic and fascinating world of domestic and international finance.

**Degree Requirements
(106 credits)**

General Education Requirements **27 cr.**

Required Common Core Courses **48 cr.**

Major Requirements (MR) **25 cr.**

BAF 312, BAF 315, BAF 321, BAF 433, BAF 438, BAF 450, BAF 481
Choose two (2) Faculty Elective Courses from the following: BAF 317, BAF 319, BAF 325, BAF 352, BAF 421, BAF 452, BAF 444, BAF 461, BAF 485, ACS 310, ECN 313, ACO 411, BAD 425, ECN 431, ECN 435.

Free Electives **6 cr.**

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

¹ Passing grade is “C”

The Finance major highlights six (6) areas where students, along with their respective advisors, can develop their business elective courses in a way to meet their potential job / career requirements. The following six areas are:

- Investments Management (*IM*)
- Corporate Finance (*CF*)
- Real Estate Finance (*REF*)
- Banking (*B*)
- Personal Financial Planning (*PFPP*)
- General Finance (*GF*)

All Banking & Finance majors must complete an Internship course which provides field experience prior to graduation.

Investment Management (IM) has been revolutionized by rapid advances in computerization. Modern investment theory of portfolio selection, asset pricing models, pricing of options and other derivative securities, and views on the efficiency of security markets have contributed to major improvements in investment management practice.

Other Finance majors can choose the elective courses to meet the requirements of career such as *Corporate Finance (CF)* Corporate financial officers oversee the efficient allocation of funds within enterprises and borrow funds on the most favorable terms possible through banks, corporate commercial papers, bonds, or new stock issue. Corporate financial managers examine corporate policies toward dividends, debt leverage, and agency conflicts between firm stakeholders.

The *Real Estate (RE)* courses deal with the acquisition, ownership and management of real assets such as shopping centers, office buildings, industrial parks, and housing. Majors acquire broad, multidisciplinary background designed to make them effective in controlling assets with significant wealth. Knowledge of financial management is initial to the success of any real estate activity – brokerage, development, property management or mortgage lending. Throughout the various areas of real estate and finance, there exists a natural interrelationship between the two disciplines. The Real Estate major prepares students for a broad range of international careers in consulting, trust and estate management, appraisal, brokerage, real estate development and government.

The banking industry has undergone massive transformations due to competition from non-bank financial institutions. The *Banking (B)* area of interest is established to provide the Banking community with timely Research and source of new employees who recognize the specialized needs of financial institutions and the banking industry.

NDU banking courses provide students with the necessary qualifications and preparation to meet the industry new demands. NDU students, with their knowledge of more than one language, are ideally qualified for employment in international banking. Banking and Finance graduates assume increasingly responsible positions over time and move up the management ranks.

Financial services are one of the most rapidly growing and dynamic fields in finance. It includes Banking, Securities, Insurance and Personal Financial Planning. *Personal Financial Planning (PFPP)* is a new service industry which has sprung from its insurance, securities and banking roots to become an important link between a variety of individuals and businesses and the broad spectrum of finance information. Students interested in working directly with people to organize their finances and plan for their financial futures should consider a major in Personal Financial Planning. Students need to know about all

areas of business and finance and they must be able to deal with quantitative measures and information, as well as understand sophisticated theoretical concepts.

In the *General Finance (GF)* field, students can choose courses among several courses. By carefully selecting these courses, students may develop a program of study that fits with their interests and career preparation needs. In order to maximize the benefit of their programs, students are strongly encouraged to work closely with their assigned advisor in developing their program of study.

**Bachelor of Business Administration - Finance
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|---|-------|
| ACO | 201 | Principles of Accounting I (CCR) ¹ | 3 cr. |
| BAD | 201 | Fundamentals of Management (CCR) | 3 cr. |
| CSC | 201 | Computers and their use (GER) ² | 3 cr. |
| MAT | 204 | Math for Business & Economics I (CCR) | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II (CCR) | 3 cr. |
| ECN | 212 | Principles of Macroeconomics (CCR) | 3 cr. |
| MAT | 205 | Math for Business & Economics II (CCR) | 3 cr. |
| STA | 206 | Applied Statistics for Bus. & Econ. I (CCR) | 3 cr. |
| ENL | 230 | English in Workplace | 3 cr. |

Summer Module I (6 cr.)

| | | | |
|-----|-----|------------------------------------|-------|
| MRK | 201 | Fundamentals of Marketing (CCR) | 3 cr. |
| ECN | 211 | Principles of Microeconomics (CCR) | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|---|-------|
| BAF | 311 | Principles of Financial Management I (CCR) | 3 cr. |
| STA | 207 | Applied Statistics for Bus. & Econ. II (CCR) | 3 cr. |
| BAD | 323 | Software Tools for Business Application (CCR) | 3 cr. |
| ARB | 211 | Appreciation of Arabic Literature (GER) | 3 cr. |
| or | | | |
| ARB | 231 | Technical Arabic (GER) | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|---|-------|
| BAF | 312 | Principles of Financial Management II (MR) ³ | 3 cr. |
| BAF | 315 | Financial Institutions & Markets (MR) ³ | 3 cr. |
| BAD | 313 | Managerial Economics (CCR) | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | (GER) | 3 cr. |

Summer Module II (9 cr.)

| | | | |
|-----|-----|----------------------------------|-------|
| BAD | 311 | Business Law (CCR) ¹ | 3 cr. |
| BAF | 321 | Fundamentals of Investments (MR) | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|-------------------------------------|-------|
| ACO | 311 | Managerial Accounting (CCR) | 3 cr. |
| BAF | 433 | International Business Finance (MR) | 3 cr. |
| — | — | Faculty Elective | 3 cr. |
| — | — | Faculty Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (16 cr.)

| | | | |
|-----|-----|--|-------|
| BAF | 450 | Futures & Options (MR) | 3 cr. |
| BAF | 438 | Credit Analysis and Commercial Lending(MR) | 3 cr. |
| BAD | 453 | E-Business (CCR) | 3 cr. |
| — | — | Free Elective | 3 cr. |
| BAF | 481 | Finance Internship (MR) | 1 cr. |
| REG | 212 | Religion and Social issue (GER) | 3 cr. |
| or | | | |
| REG | 213 | Catholicism (GER) | 3 cr. |

¹Common Core Requirements

²General Education Requirements

³Major Requirements

Undergraduate Courses: Finance

BAF 311 Principles of Financial Management I (3.0); 3 cr. An introduction to the role of the financial manager and to the techniques for obtaining and using funds to maximize the value of the firm. Topics covered include: discounted cash-flow analysis; valuation methods; risk and rates of return; financial analysis and forecasting; financial planning and control; working-capital policy; cash and marketable securities management. The passing grade for this course is "C". *Prerequisites:* ACO 202, STA 206.

BAF 312 Principles of Financial Management II (3.0); 3 cr. This course is the continuation of BAF 311. Topics covered include: capital budgeting techniques; project cash flows and risk; the cost of capital, capital structure and leverage; dividend policy; common stock financing; long term debt; short-term financing; inventory and credit management. *Prerequisite:* BAF 311.

BAF 315 Financial Institutions and Markets (3.0); 3 cr. An introduction to the objectives and roles of various financial institutions and markets. Topics covered include: various financial intermediaries and their function in the economy; determination of interest rate levels; financial markets; financial claims; distribution channels for financial products; performance analysis and foreign exchange. *Prerequisite:* BAF 311.

BAF 317 Personal Financial Planning: Concepts and Principles (3.0); 3 cr. Designed to serve the personal finance needs of students regardless of their major fields. Practical applications in personal and family financial problems planning, including credit money management, buying, borrowing, banking, insurance, savings, investments, taxation, estate planning and home ownership. Discusses the method integrating these disciplines into an overall financial plan tailored to individual needs. *Prerequisite:* BAF 311, Junior Standing.

BAF 319 Estate Planning Techniques (3.0); 3 cr. This course, which is complementary to Personal Financial Planning, concentrates on taxation and estate planning. These concepts are applied to special situations and techniques are described for minimizing taxes and achievement of client objectives. Planning for retirement plan distributions also is explored. Tax system is described covering both estate and gift taxes.

Further management of property and its disposition is described with use of such tools as of wills and wills substitute such as life insurance. This course also reviews various business structuring and the special issues associated with creation, retention or disposition of a business interest in a family's financial planning. *Prerequisite:* BAF 317.

BAF 321 Fundamentals of Investments (3.0); 3 cr. Principles and practices involved in the field of investment. Topics covered include: sources and determination of holding period; determination of security prices; capital asset pricing models; portfolio selection problems; investment companies. *Prerequisites:* BAF 312, STA 207.

BAF 325 Real Estate Principles (3.0); 3cr. Deals generally with urban real estate with emphasis on principles and practices of the real estate business. The course will include discussion of markets and methods of financing real property. An investment strategy will be developed. The real estate market in Lebanon will be emphasized. *Prerequisite:* BAF 312.

BAF 352 Commercial and Investment Banking (3.0); 3 cr. This course is designed to equip students with principles and tools which allow them to tackle realistic risk management problems associated with financial institutions. Another objective is to provide students with an understanding of the fundamental principles and concepts that underlie the Investment Banking process including market making, underwriting, and syndication. Also this course will examine recent trends in regulations and product innovation by both commercial and investment banks. This includes origination, underwriting, and distribution of new securities to the public. In addition formulation of objectives and policies of banks are discussed, including management of assets & liabilities, sources and uses of funds, administration of reports and loans and evaluation of bank performance. *Prerequisites:* BAF 312, BAF 315.

BAF 421 Advanced Investment Finance (3.0); 3 cr. An advanced level treatment of current theory and practice relating to contingent securities, speculative markets and portfolio management issues. Emphasis on recent innovations and developments in financial markets, including options, futures and portfolio insurance, etc... *Prerequisite:* BAF 321.

BAF 433 International Business Finance (3.0); 3 cr. Discussion of the environment and problems facing a financial manager in a multinational enterprise. Topics covered include: balance of payments; foreign exchange markets; transactions and operating exposure; financing of international trade; international financial markets; risk evaluation in foreign direct investments; international banking. *Prerequisites:* BAF 311, ECN 212.

BAF 438 Credit Analysis and Commercial Lending (3.0); 3 cr. Focuses on how organization of the commercial lending business contributes to bank profitability; covers the commercial lending process from the initial loan request through collection. Topics include loan interviewing and credit investigation, credit analysis, structuring and negotiation, documentation and closing, problem loans, and follow-up. Also examination of analytical techniques to assume the role of credit officer. *Prerequisite:* BAF 312.

BAF 444 International Banking (3.0); 3 cr. Internationalization of banks to meet the global financial needs of multinational activities. Theory and practice of international banking; subjects include current international monetary and financial environment and typical problems of international banking from a management perspective. Interaction with international financial markets and financial centers. *Prerequisite:* BAF 312.

BAF 450 Futures and Options (3.0); 3 cr. Provides an introduction to financial futures such as currency futures, swaps and interest rate futures. Explore the markets on which they are traded. Also analyzes pricing of options and other derivative securities. Includes the leverage and risk aspects of options. *Prerequisite:* BAF 321.

BAF 452 Financial Modeling (3.0); 3 cr. This course is wrap-up of financial, statistical and computational concepts and techniques needed in the field of Financial Engineering and Computational Finance. Topics include: Introduction to Financial programming in VB, overview of statistical techniques used in Finance (Regression, Time Series, Sampling, Data Analysis), and overview of financial concepts, such as financial price simulation, and cash flow maps. *Prerequisites:* BAD 323, BAF 321.

BAF 461 Special Topics in Finance (1.0 - 3.0); 1-3 cr. Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offerings, offered only when faculty are available and sufficient student interest exists. *Prerequisite:* Senior Standing.

BAF 481 Finance Internship; (1.0) 1 cr. Interns will have the opportunity to develop new and practical skills by working under the direction and supervision of an experienced practitioner. The internship will be done in cooperating and department approved firms. A minimum of 150 hours of internship is required. *Prerequisite:* Senior Standing.

BAF 485 Advanced Corporate Finance (3.0); 3 cr. This course is about corporate financial management from the stand point of the general manager. Integration of financial operations with other operations of a business unit, including working capital management, financial planning and financial control, capital budgeting, the theory of corporate finance. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (BBA) – Financial Engineering

Financial Engineering is the application of the mathematical tools and computational methods commonly used in engineering to financial problems, especially the pricing and hedging of derivative instruments. It involves the development and creative application of financial theory and Financial instruments such as forwards, futures, swaps, options and related products to structure solutions to complex financial problems and to exploit Financial opportunity.

Financial Engineering is not a tool, It is a profession that uses tools, of which derivatives are one. Importantly, the term “Analysis” means to “decompose in order to understand”. The term “Engineering” means “Build”.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Common Core Requirements **45 cr.**

ACO 201, ACO 202, ACO 311, BAD 201, BAD 323, BAD 453, BAF 311, ECN 211, ECN 212, ECN 333, MRK 201, MAT 204, MAT 205, STA 206, STA 207.

Major Requirements **34 cr.**

BAF 312, BAF 321, BAF 421, BAF 450, BAF 452, CSC 216, CSC 372, FEN 431, FEN 442, FEN 455, FEN 463, MAT 336.

Note: In rare cases graduating students may petition to substitute one Business course for another if the required Business course is not offered in any semester.

**Bachelor of Business Administration (BBA) – Financial Engineering
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 201 | Principles of Accounting I (CCR) ¹ | 3 cr. |
| BAD | 201 | Fundamentals of Management (CCR) ¹ | 3 cr. |
| ECN | 211 | Principles of Microeconomics (CCR) ¹ | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) ² | 3 cr. |
| MAT | 204 | Math for Business and Economics I (CCR) ¹ | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 202 | Principles of Accounting II (CCR) ¹ | 3 cr. |
| ECN | 212 | Principles of Macroeconomics (CCR) ¹ | 3 cr. |
| ENL | 230 | English in Workplace (GER) ² | 3 cr. |
| MAT | 205 | Math for Business and Economics I (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Summer Session I (9 cr.)

| | | | |
|-----|-----|--|-------|
| BAF | 311 | Principles of Financial Management I (CCR) ¹ | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 311 | Managerial Accounting (CCR) ¹ | 3 cr. |
| BAF | 312 | Principles of Financial Management II (MR) ³ | 3 cr. |
| CSC | 201 | Computers and their use (GER) ² | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics I (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Spring Semester II (16 cr.)

| | | | |
|-----|-----|---|-------|
| MAT | 336 | Numerical Methods for Finance (MR) ³ | 3 cr. |
| MRK | 201 | Fundamentals of Marketing (CCR) ¹ | 3 cr. |
| BAF | 321 | Fundamentals of Investments (MR) ³ | 3 cr. |
| CSC | 216 | Computer Programming I (MR) ³ | 3 cr. |
| CSC | 372 | Mathematic Software Packages (MR) ³ | 1 cr. |
| BAD | 323 | Software Tools for Business Applications (CCR) ¹ | 3 cr. |

Summer Session II (6 cr.)

| | | | |
|-----|-----|---|-------|
| ECN | 333 | Managerial Economics (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|---|-------|
| BAF | 421 | Advanced Investment Finance (MR) ³ | 3 cr. |
| BAF | 450 | Futures and Options (MR) ³ | 3 cr. |
| BAF | 452 | Financial Modeling (MR) ³ | 3 cr. |
| FEN | 442 | Financial Risk Management (MR) ³ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Spring Semester III (15 cr.)

| | | | |
|-----|-----|--|-------|
| BAD | 453 | E-Business (CCR) ¹ | 3 cr. |
| FEN | 431 | Fixed Income Securities (MR) ³ | 3 cr. |
| FEN | 455 | Advanced Derivatives Model (MR) ³ | 3 cr. |
| FEN | 463 | Computational Finance and Simulation (MR) ³ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

¹ Common Core Requirements

² General Education Requirements

³ Major Requirements

Undergraduate Courses: Financial Engineering

FEN 431 Fixed Income Securities (3.0); 3 cr. This course provides a quantitative approach to fixed income securities and bond portfolio management. Topics include: Bond Valuation, Duration, yield curve and term structure measurement and theory, mortgage backed securities, as well as interest rate models (Vasicek and Cox Ingersoll Ross). *Prerequisite:* BAF 421.

FEN 442 Financial Risk Management (3.0); 3 cr. This course explores various aspects of financial risk management, including credit risk, market risk and operational risk. Emphasis is on quantitative measurement techniques, covering value at risk, dynamic portfolio distribution and extreme value analysis. *Prerequisite:* Senior Standing.

FEN 455 Advanced Derivatives Models (3.0); 3 cr. This course focuses of efficient

implementation of advanced derivative models aimed at pricing and hedging derivative securities. Pseudo codes and algorithms will be studied and programming application developed using VB. Topics include: Black-scholes implementation, trees construction (binomial and trinomial trees), Monte Carlo application to option pricing and implied volatility, and advanced interest rate models, (Ho and Lee, Hulland White, Black-Derman, Toy, Heath-Jarrow-Morton). *Prerequisites:* BAF 450, CSC 216.

FEN 463 Computational Finance and Simulation (3.0); 3 cr. This course provides the computational skills required in the field of Financial Engineering. Students will learn how to program financial models and develop simulations using VB. *Prerequisites:* CSC 372, BAD 323.

The Degree of Bachelor of Business Administration - Accounting

The Major in Accounting is designed to provide students with the opportunity to acquire the basic and advanced knowledge of accounting theory and practice in addition to the analytical skills and tools essential to a solid business education. Courses are designed to enable a student to understand the intellectual threads of modern accounting and its interrelationship to the various fields of business and management.

Accounting majors are increasingly taking and passing the Certified Public Accountant (CPA) Certified Management Accountant (CMA) and Certified International Audit (CIA) examinations through training in Accounting and related fields. It provides the practical and theoretical background needed to succeed in the dynamic and fascinating world of Accounting.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Required Common Core Courses **48 cr.**

Major Requirements **25 cr.**

ACO 323, ACO 313, ACO 411, ACO 413, ACO 421, ACO 48, BAF 312,

Choose two (2) faculty elective courses from the following:

ACO 314, ACO 321, ACO 350, ACO 406, ACO 414, BAD 429, BAD 431, BAF 452, BAF 485, CSC 221, CSC 315, CSC 321

Free Electives **6 cr.**

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

The accounting major highlights four (4) areas where students along with their respective advisors can develop their business elective courses in a way to meet their potential job / career requirements. The following four areas are::

- Accounting Information Systems (AIS)
- General Accounting (GA)
- Management Accounting & Control (MA&C)
- Auditing (A)

All Accounting majors must complete an internship course which provides field experience prior to graduation.

The *Accounting Information Systems (AIS)* field was developed in response to employers indicating an increased need for accounting majors with computer expertise.

The AIS program prepares students for career opportunities in the field of accounting systems design, accounting systems management and accounting systems auditing and other systems – related areas of accounting. Electronic processing of financial transactions is now the norm in small and large businesses alike. Accountants must be prepared to design, select, install and configure numerous accounting applications such as accounts receivable and billing systems, human resources management systems, and financial reporting systems.

Other Accounting majors may choose business elective courses meeting the track of *General Accounting (GA)*. This field is designed to provide graduates with the knowledge

and skills necessary to enter professional careers leading to an accounting designation or entry – level positions in accounting. Students can expect to develop conceptual and technical accounting competence and analytical abilities.

The *Management Accounting & Control* (MA&C) field of concentration was established to better serve the needs of students interested in industry or government. Typically, careers begin in one area of a company but soon involve work in a number of different functions within the organization such as the Controller's Department, Internal Audit, Treasury and Finance, Cost Accounting, planning and budgeting, etc... The purpose of the required courses in this track is to give students an understanding of these areas and the basic skills required to successfully enter the organization in any of these positions.

This track is distinct, because it gives an increased emphasis on understanding the role of Accounting and in assisting management with decision making and organizational control as well as producing necessary information for external reporting.

The *Auditing* (A) field of concentration is designed for students who desire to reach the top levels in public accounting. It provides the students with a strong technical and theoretical background which is helpful in solving today's complex auditing and reporting problems.

**Bachelor of Business Administration - Accounting
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|---|-------|
| ACO | 201 | Principles of Accounting I (CCR) ¹ | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) ² | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| STA | 206 | Applied Statistics for Business & Econ. I (CCR) | 3 cr. |
| MAT | 204 | Mathematics for Business & Economics I (CCR) | 3 cr. |

Spring Semester I (15)

| | | | |
|-----|-----|--|-------|
| ACO | 202 | Principles of Accounting II (CCR) | 3 cr. |
| STA | 207 | Applied Statistics for Business & Econ. II (CCR) | 3 cr. |
| ECN | 212 | Principles of Macroeconomics (CCR) | 3 cr. |
| BAD | 201 | Fundamentals of Management (CCR) | 3 cr. |
| MAT | 205 | Math for Business & Economics II (CCR) | 3 cr. |

Summer Module I (9 cr.)

| | | | |
|-----|-----|------------------------------------|-------|
| ACO | 311 | Managerial Accounting (CCR) | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics (CCR) | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 313 | Intermediate Accounting I (MR) ³ | 3 cr. |
| BAD | 311 | Business Law (CCR) | 3 cr. |
| BAF | 311 | Fundamentals of Financial Management I (CCR) | 3 cr. |
| BAD | 323 | Software Tools for Business Applications (CCR) | 3 cr. |
| — | — | (GER) | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 323 | Accounting Information System (MR) | 3 cr. |
| BAF | 312 | Fundamentals of Financial Management II (MR) | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| — | — | (GER) | 3 cr. |
| — | — | Faculty Elective | 3 cr. |

Summer Module II (9 cr.)

| | | | |
|-----|-----|---|-------|
| BAD | 313 | Managerial Economics (CCR) | 3 cr. |
| MRK | 201 | Fundamentals of Marketing (CCR) | 3 cr. |
| ARB | 211 | Appreciation of Arabic Literature (GER) | 3 cr. |
| or | | | |
| ARB | 231 | Technical Arabic (GER) | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|-----------------------------|-------|
| ACO | 421 | Advanced Accounting (MR) | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| ACO | 413 | Auditing I (MR) | 3 cr. |
| — | — | Faculty Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (13 cr.)

| | | | |
|-----|-----|----------------------------------|-------|
| ACO | 481 | Accounting Internship (MR) | 1 cr. |
| BAD | 453 | E-Business (CCR) | 3 cr. |
| ACO | 411 | Taxation (MR) | 3 cr. |
| REG | 212 | Religion and Social Issues (GER) | 3 cr. |
| or | | | |
| REG | 213 | Catholicism (GER) | 3 cr. |
| — | — | Free Elective | 3 cr. |

¹ Common Core Requirements

² General Education Requirements

³ Major Requirements

Undergraduate Courses: Accounting

ACO 201 Principles of Accounting I (3.0); 3 cr. Introduction to the basic principles, concepts, and techniques of financial accounting. Explanation of the basic techniques of measuring, classifying, summarizing, reporting, and interpreting financial information. The passing grade for this course is “C”.

ACO 202 Principles of Accounting II (3.0); 3 cr. A continuation of ACO 201. Explanation and understanding of more advanced procedures of accounting for partnerships, corporations, long-term debts and marketable securities. Includes use of accounting software. The passing grade for this course is “C”. *Prerequisite:* ACO 201.

ACO 311 Managerial Accounting (3.0); 3 cr. Fundamental managerial accounting procedures and techniques used in management decision-making. Topics covered include: cost types; cost behavior patterns; cost-volume-profit relationships; budgeting and planning; and performance evaluation. *Prerequisite:* ACO 202.

ACO 313 Intermediate Accounting I (3.0); 3 cr. An in-depth study of accounting theory and concepts. Topics covered include: issues related to recording revenues, assets, liabilities and equity structure. *Prerequisite:* ACO 202.

ACO 314 Intermediate Accounting II (3.0); 3 cr. This course is the continuation of ACO 313. Topics include: handling of long-term investments, stockholders’ equity, accounting for leases, analysis of financial statements, and other accounting topics. *Prerequisite:* ACO 313.

ACO 321 Cost Accounting (3.0); 3 cr. In-depth study of the procedures for gathering cost information. Topics covered include: mixed cost analysis; relevant costs; capital budgeting; and decision models. *Prerequisite:* ACO 311.

ACO 323 Accounting Information Systems (3.0); 3 cr. Examination of the systems for collecting and processing data necessary in planning, decision-making, and the control of business organizations. Includes use of accounting software packages. *Prerequisites:* ACO 202, CSC 201.

ACO 350 Corporate Financial Reporting (3.0); 3 cr. This course covers the financial reporting system, principal financial statements other sources of financial information, statement of cash flows, foundations of ratio and financial analysis, analysis of business combinations,

analysis of multinational operations, valuation and forecasting. *Prerequisite:* BAF 311.

ACO 406 Government and Non-Profit Accounting (3.0); 3 cr. Principles, procedures and ethics of financial reporting for non-profit organizations including state & local government. Includes the use of funds, budgets appropriations and encumbrances as means of control. *Prerequisite:* ACO 313.

ACO 411 Taxation (3.0); 3 cr. Application of the Lebanese income taxes to business entities and its reporting procedures. Also discussion of the issues related to the Lebanese accounting system such as multi-currency transactions, chart of accounts and closing procedures. *Prerequisite:* Senior Standing.

ACO 413 Auditing I (3.0); 3 cr. This course covers the functions and work of the independent auditor. Topics include: the auditing profession, the professional ethics auditor liabilities, overview of the audit process including the audit evidence, objective, audit program, working papers, planning audit, materiality and risk, post audit and reporting on audited income statement. *Prerequisite:* ACO 202.

ACO 414 Auditing II (3.0); 3 cr. This course is the continuation of Auditing I. This course provides a thorough understanding of the detailed audit procedure, audit planning, complete audit and post audit. The audit covers cash changes (cash flow) assets, inventory, accounts receivable, accounts payable, fixed assets, auditing revenue cycle, other services and reports and assurance services. *Prerequisite:* ACO 413.

ACO 421 Advanced Accounting (3.0); 3 cr. A comprehensive study of financial accounting for partnerships, branches, business combinations, and the reporting of consolidated financial statements. Also discussion of accounting for non-profit organizations. *Prerequisite:* Senior Standing.

ACO 481 Accounting Internship (1.0); 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquiring practical skills. The internship will be done in cooperating and department approved firms. A minimum of 150 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (BBA) - Economics

The Economics Major is designed to provide the student with an understanding of the principles and institutions governing economic decisions made by Households, Businesses and Governments. This type of knowledge combined with studies in related areas, provides an appropriate background for employment in financial and non-financial business firms and governmental agencies. It also provides a solid basis for graduate study in economics, business and public administration, international studies, urban planning and law.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Required Common Core Courses **48 cr.**

Major Requirements **25 cr.**

ECN 313, ECN 321, ECN 323, ECN 431, ECN 436, ECN 439, ECN 481

Choose two (2) faculty elective courses from the following (6 credits.): ECN 314, ECN 325, ECN 327, ECN 432, ECN 434, ECN 435, ECN 437, BAF 312

Free Electives **6 cr.**

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

**Bachelor of Business Administration - Economics
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 201 | Principles of Accounting I (CCR) ¹ | 3 cr. |
| BAD | 201 | Fundamentals of Management (CCR) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I (CCR) | 3 cr. |
| ECN | 211 | Principles of Microeconomics (CCR) | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) ² | 3 cr. |

Spring Semester I (15)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II (CCR) | 3 cr. |
| ECN | 212 | Principles of Macroeconomics (CCR) | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 205 | Mathematics for Business and Economics II (CCR) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 cr.)

| | | | |
|-----|-----|---|-------|
| MRK | 201 | Fundamentals of Marketing (CCR) | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I (CCR) | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| BAD | 311 | Business Law (CCR) | 3 cr. |
| BAF | 311 | Principles of Financial Management I (CCR) | 3 cr. |
| ECN | 321 | Intermediate Microeconomics Analysis (MR) ³ | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II (CCR) | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 311 | Managerial Accounting (CCR) | 3 cr. |
| BAD | 323 | Software Tools for Business Applications (CCR) | 3 cr. |
| ECN | 323 | Intermediate Macroeconomics Analysis (MR) | 3 cr. |
| ECN | 313 | Introduction to Econometrics (MR) | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Module II (9 cr.)

| | | | |
|-----|-----|---|-------|
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| BAD | 313 | Managerial Economics (CCR) | 3 cr. |
| — | — | Faculty Elective | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|---|-------|
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| ECN | 436 | Public Finance and Fiscal Policy (MR) | 3 cr. |
| ECN | 431 | International Economics (MR) | 3 cr. |
| ARB | 211 | Appreciation of Arabic Literature (GER) | 3 cr. |
| OR | | | 3 cr. |
| ARB | 231 | Technical Arabic (GER) | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (13 cr.)

| | | | |
|-----|-----|--|-------|
| ECN | 439 | Economics of Developing Countries (MR) | 3 cr. |
| ECN | 481 | Seminar in Economics (MR) | 1 cr. |
| REG | 212 | Religion and Social Issues (GER) | 3 cr. |
| OR | | | |
| REG | 213 | Catholicism (GER) | 3 cr. |
| BAD | 453 | E-Business (CCR) | 3 cr. |
| — | — | Faculty Elective | 3 cr. |

¹ Common Core Requirements

² General Education Requirements

³ Major Requirements

Undergraduate Courses: Economics

ECN 200 Survey of Economics (3.0); 3 cr. Survey of microeconomics and macroeconomics principles for non-Business Administration students. Students cannot receive credit for both ECN 200 and ECN 211 or ECN 212.

ECN 211 Principles of Microeconomics (3.0); 3 cr. An introduction to economic concepts, principles, and microeconomics analysis. Topics covered include: demand and supply analysis; consumers' choice; production and costs; price and output determination under different market conditions; and pricing of factors of production. The passing grade for this course for DFAE students only is "C".

ECN 212 Principles of Macroeconomics (3.0); 3 cr. An introduction to macroeconomics analysis. Topics covered include: national income determination; money and banking; unemployment and inflation; fiscal and monetary policy; international trade and finance. The passing grade for this course for DFAE students only is "C".

ECN 313 Introduction to Econometrics (3.0); 3 cr. The classical linear regression model and the multiple regression model in matrix form; the criteria for estimators; multicollinearity, serial correlation, heteroscedasticity; identification and estimation of simultaneous equation models and applications. *Prerequisites:* ECN 211, 212, STA 207, and MAT 205.

ECN 314 Applied Econometrics and Time Series (3.0); 3 cr. The main purpose of this course is to provide a comprehensive treatment of econometric techniques applied in time series models. Topics include: stationary and non-stationary time series models, modeling economic time series, multiequation time series models, notation and interpretation of ARIMA models, forecasting,... An interactive econometric software package is used: Data-Fit or TSP (Time Series Processing). *Prerequisite:* ECN 313.

ECN 321 Intermediate Microeconomic Analysis (3.0); 3 cr. Theory of the firm and consumer. Topics covered include: maximizing behavior of consumers; business firm behavior in price and output decisions under different types of market structures; factor price determination; welfare implications of marketplace performance. *Prerequisites:* ECN 211, ECN 212.

ECN 323 Intermediate Macroeconomic Analysis (3.0); 3 cr. Macroeconomics theory and policy. Topics covered include: measurement of aggregate economic activity; theories of inflation and unemployment; Monetarist-Keynesian-Rational Expectation controversy; business cycles; fiscal and monetary policies. *Prerequisites:* ECN 211, ECN 212.

ECN 325 Labor Economics (3.0); 3 cr. An analytic study of the labor market. Topics covered include: labor force participation and composition; human capital theory; wage determination; demand for and supply of labor; trade-unions; collective bargaining; public policy and unemployment; and the economics of discrimination. *Prerequisites:* ECN 211, ECN 212.

ECN 327 History of Economic Thought (3.0); 3 cr. A study of origins and development of economic thought from mercantilism to the present. *Prerequisites:* ECN 211, ECN 212.

ECN 333 Managerial Economics (3.0); 3 cr. Application of economic analysis to business problems. Topics covered include: risk analysis; theory of consumer choice; estimation and analysis of demand, production and cost functions; forms of competition; pricing techniques; profits; game theory. *Prerequisites:* ECN 211, STA207.

ECN 431 International Economics (3.0); 3 cr. Theoretical and policy approach to the study of international trade and finance. Topics covered include: trade theory; instruments of commercial policy; trade policy in developing countries; economic integration; foreign exchange markets; balance of payments; international monetary system; world debt crisis. *Prerequisites:* ECN 211, ECN 212.

ECN 432 Urban Economics (3.0); 3 cr. An introduction to the existence and growth of cities, and the application of economic principles to the major problems of the modern urban community. Topics covered include: reasons for the existence of cities; market forces in the development of cities; urban economic growth; land rent and land use; land use controls and zoning; causes of poverty and public policy; housing problems and policies; urban transportation; autos and highways; mass transit; education and crime; discrimination; programs

for alleviation or solution of urban problems. *Prerequisite:* Senior standing.

ECN 434 Environmental and Natural Resource Economics (3.0); 3 cr. An introduction to the natural resource and environmental economics, and sustainable development. Topics covered include: introduction to resource and environmental economics; ethical foundations of environmental economics; economic concepts and analysis for examining natural resource use; the valuation of environmental resources; the population problem; sustainability and sustainable development; depletable, recyclable, non-recyclable, replenishable, storable, renewable and reproducible resources; the efficient and optimal use of environmental resources; the economics of pollution and pollution control policy; international and global environmental pollution problems. *Prerequisite:* ECN 321.

ECN 435 Monetary Theory and Policy (3.0); 3 cr. A study of the development of monetary theory and policy. Topics covered include: demand for and supply of money; nature of the Monetarist-Keynesian-Rational Expectation controversy; policy coordination; government monetary policy; inflation and unemployment; international constraints; empirical verification of some theories. *Prerequisites:* ECN 211, ECN 212.

ECN 436 Public Finance and Fiscal Policy (3.0); 3 cr. This course examines the economics of the public sector. It has two broad topics: government expenditures and revenues. Topics

include: market failures and optimal taxation; cost/benefit analysis of government projects; income redistribution and poverty programs; political economy and voting; the economics of local governments; budget deficits, inflation and the lack of adequate financing in the developing countries; tax systems with special emphasis on the Lebanese case. *Prerequisites:* ECN 321, ECN 323.

ECN 437 Contemporary Economic Systems (3.0); 3 cr. An examination and comparison of the organization, operation and performance of contemporary economic systems. Also study of the changing pattern of ideologies and practices. *Prerequisites:* ECN 211, ECN 212.

ECN 439 Economics of Developing Countries (3.0); 3 cr. A study of the economics of developing countries. Topics covered include: meaning of underdevelopment; historical patterns of economic change in the developing countries; population problems; obstacles to development; role of industry and agriculture; inequality of income and wealth distribution; economic planning; foreign aid and indebtedness. *Prerequisites:* ECN 211, ECN 212.

ECN 481 Seminar in Economics (1.0); 1 cr. An in-depth study of a selected topic in theoretical or applied economic. Students have to present a term-paper on a Lebanese government economic institution. With the permission of the instructor, students may repeat this course if topics vary. *Prerequisite:* Senior standing.

The Degree of Bachelor of Business Administration (BBA) - Energy Economics

The energy sector is a large and very important component of the Lebanese and Middle Eastern economies. It encompasses many aspects such as exploration, development, processing, production, transportation, marketing and distribution of energy. Energy economics, which is a new of the existing brand of Economics at NDU, integrates the discipline of Economics with energy.

The program is intended to offer students a broad working knowledge of the energy industry and to provide them with the necessary tools to understand its structure and functional elements. In addition, the program provides the student with the historical and Institutional background and the basic tools necessary for an understanding of the operations of world energy markets.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Common Core Requirements **48 cr.**

Major Requirements **31 cr.**

ECN 313, ECN 321, ECN 431, ECN 434, ENR 201, ENR 305, ENR 401, ENR 405, ENR 410, ENR 452, ENR 461

Note: In rare cases graduating students may petition to substitute one Business course for another if the required Business course is not offered in any semester.

Bachelor of Business Administration (BBA) - Energy Economics
Suggested Program (106 Credits)

Fall Semester I (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 201 | Principles of Accounting I (CCR) ¹ | 3 cr. |
| BAD | 201 | Fundamentals of Management (CCR) ¹ | 3 cr. |
| ECN | 211 | Principles of Microeconomics (CCR) ¹ | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) ² | 3 cr. |
| MAT | 204 | Math for Business and Economics I (CCR) ¹ | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 202 | Principles of Accounting II (CCR) ¹ | 3 cr. |
| ECN | 212 | Principles of Macroeconomics (CCR) ¹ | 3 cr. |
| ENL | 230 | English in Workplace (GER) ² | 3 cr. |
| MAT | 205 | Math for Business and Economics I (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Summer Session I (9 cr.)

| | | | |
|-----|-----|--|-------|
| MRK | 201 | Fundamentals of Marketing (CCR) ¹ | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I (CCR) ¹ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| ACO | 311 | Managerial Accounting (CCR) ¹ | 3 cr. |
| BAF | 311 | Principles of Financial Management I (CCR) ¹ | 3 cr. |
| CSC | 201 | Computers and their use (GER) ² | 3 cr. |
| ECN | 321 | Intermediate Microeconomic Analysis (MR) ³ | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics I (CCR) ¹ | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|---|-------|
| BAD | 311 | Business Law (CCR) ¹ | 3 cr. |
| BAD | 323 | Software Tools for Business Applications (CCR) ¹ | 3 cr. |
| ECN | 313 | Introduction to Econometrics (MR) ³ | 3 cr. |
| ENR | 201 | Introduction to Energy Economics (MR) ³ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Summer Session II (9 cr.)

| | | | |
|-----|-----|--|-------|
| ECN | 333 | Managerial Economics (CCR) ¹ | 3 cr. |
| ENR | 305 | Oil and Gaz: From Exploitation to Transportation (MR) ³ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|--|-------|
| ENR | 410 | Solar and Water Energy Economics (MR) ³ | 3 cr. |
| ECN | 431 | International Economics (MR) ³ | 3 cr. |
| ENR | 401 | Petroleum in the World Economy (MR) ³ | 3 cr. |
| ENR | 405 | The Economics of Natural Gas (MR) ³ | 3 cr. |
| — | — | (GER) ² | 3 cr. |

Spring Semester III (13 cr.)

| | | | |
|-----|-----|--|-------|
| BAD | 453 | E-Business (CCR) ¹ | 3 cr. |
| ECN | 434 | Environmental and Natural Resource Economics (MR) ³ | 3 cr. |
| ENR | 452 | International Energy Institutions (MR) ³ | 3 cr. |
| ENR | 461 | Selected Topics in Energy Economics (MR) ³ | 1 cr. |
| — | — | (GER) ² | 3 cr. |

¹ Common Core Requirements

² General Education Requirements

³ Major Requirements

Undergraduate Courses: Energy Economics

ENR 201 Introduction to Energy Economics (3.0); 3 cr. Introduction to energy markets, industry, and economics. Topics covered include: world energy industry; energy markets; industrial and household consumption of energy; trends in world energy markets; energy cycles and crises; energy and economic development; population growth and energy; valuation of energy sources; efficient and optimum use of energy. *Prerequisite:* ECN 321.

ENR 305 Oil and Gaz: From Exploitation to Transportation (3.0); 3 cr. The first part of the course is a survey of the basic principles, procedures, phases, and technologies of oil and gaz production. It deals with transforming crude oil and natural gaz into finished and semi-finished products. It also deals with the basics of refining process and technologies. The second part of the course is an overview of modes and equipments for local and international transportation of oil and gaz. The transportation industry is a wide and diversified fixed of knowledge. This course, however, will tackle specific areas, like time and cost efficient modes of transportation of oil and gaz, transportation regulatory environment, documentation, customs brokers, etc. *Prerequisite:* ENR 201.

ENR 401 Petroleum in the World Economy (3.0); 3 cr. Examination of the structure of the world petroleum industry. Topics covered include: introduction to petroleum industry; market structure; trends in world petroleum

markets; demand and supply of petroleum; cost of production of petroleum; petroleum prices; cartels; petroleum cycles and crises; petroleum policies and strategies. *Prerequisite:* ECN 321.

ENR 405 The Economics of Natural Gas (3.0); 3 cr. Examination of the structure of the world natural gas industry. Topics covered include: introduction to natural gas industry; market structure; trends in world natural gas markets; demand and supply of natural gas; natural gas prices; natural gas policies and strategies. *Prerequisites:* ENR 201, ECN 321.

ENR 410 Solar and Water Energy Economics (3.0); 3 cr. It gives familiarity with the terms, concepts, components, costs and economics of solar and water energy. Topics include: market structures, demand and supply, pricing and strategies. *Prerequisites:* ENR 201, ECN 321.

ENR 452 Applied Energy Economics within International Energy Institutions (3.0); 3 cr. Application of theoretical knowledge of energy economics in energy organizations and institutions concerned with Energy. It applied economic tools to analyze energy institutions like OPEC, OAPEC, GCC, WEC, and IEA.

ENR 461 Selected Topics in Energy Economics (1.0); 1 cr. Various topics in Energy are considered. They will vary upon recent development in the field. *Prerequisite:* Senior Standing.

DEPARTMENT OF MANAGEMENT AND MARKETING

Chairperson: *Dr. Atef Harb*

Secretary: *Mrs. Grace Kanaan*

Associate Professor

Mehanna, Rock-Antoine, Ph. D, 2000, Southern University, Baton Rouge, Louisiana, USA
Business Policy

Assistant Professors

Akhras, Caroline, Ph.D., 2006, University of Leicester, UK

Doctor of Education

Harb, Atef, Ph.D., 1996, Ecole Polytechnique de Montreal, Canada

Economics-Operations Research

Saber, Rashid, Ph.D., 1998, California Coast University, USA

Marketing and Management

Hasham, Elham, Ph. D., 2003, Educational Leadership, Management and Administration,
Leicester University, United Kingdom.

Management

Senior Lecturers

Barakat, Edgard, M.B.A., 1981, University of Dayton, USA

Marketing

Zakhour, Kamal, M.B.A., 1982, University of Pittsburgh, USA

Marketing

Lecturer

Nakhlé Vivianne, M.S., 1993, Strayer College, Washington D.C.

Business Administration

Menassa, Joyce, M.S., 1984, Beirut University College, Lebanon

Marketing

The Department of Management and Marketing offers the following undergraduate degree programs.

The Degree of Bachelor of Business Administration (B.B.A.) - *Management*

The BBA-Management option is designed to provide students with an understanding of the processes and structures of organizations to enable them to be more effective managers. The courses taken in addition to the required common courses provide the students with proficiency in management skills and decision-making. The program prepares candidates for managerial responsibilities in both the private and public sectors.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the common core and major requirements. These 106 credits are divided into:

**Degree Requirements
(106 credits)**

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Required Common Courses **48 cr.**

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 323, BAD 433, BAD 453, BAF, 311¹, ECN 211¹, ECN 212¹, ECN 333, MRK 201, STA 206, STA 207, MAT 204, MAT 205

Required Major Courses **25 cr.**

BAD 315, BAD 317, BAD 425, BAD 429, BAD 431, BAD 482, MRK 421

Plus two additional courses from the following: BAF 312, BAD 321, BAD 329, BAD 421, BAD 423, BAD 427, ACO 311

Free Electives **6 cr.**

¹ Minimum passing grade is C

**Bachelor of Business Administration (B.B.A.) – Management
Suggested Program (106 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| MAT | 205 | Mathematics for Business and Economics II | 3 cr. |
| ECN | 333 | Managerial Economics | 3 cr. |
| BAD | 315 | International Business | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| BAD | 311 | Business Law | 3 cr. |
| ACO | 311 | Managerial Accounting | 3 cr. |
| BAD | 317 | Organizational Behavior | 3 cr. |
| BAD | 323 | Software Tools for Business Applications | 3 cr. |
| BAF | 312 | Principles of Financial Management II | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|-----------------------|-------|
| BAD | 482 | Management Internship | 1 cr. |
| — | — | GER | 6 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 421 | Sales Management | 3 cr. |
| BAD | 453 | E-Business | 3 cr. |
| BAD | 425 | Quantitative Techniques for Management | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 429 | Operations Management | 3 cr. |
| BAD | 431 | Ethics in Business | 3 cr. |
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Business Administration

BAD 101 Introduction to Business (3.0); 3 cr. An orientation to the field of business. Topics covered include: types of business organizations; financing of businesses; marketing functions; management functions; human resources management; production management; accounting; international business.

BAD 201 Fundamentals of Management (3.0); 3 cr. An introduction to the basic elements of the managerial process and the basic theories of management. Topics covered include: management objectives; organizational structure; material and human resource utilization; human relations; decision making, planning, organizing, staffing, directing and controlling.

BAD 311 Business Law (3.0); 3 cr. Survey of Lebanese Commercial Law. Topics covered include: the nature of the law; the courts system; contracts; property sales and secured transactions; insurance; commercial papers; agency; business organizations; bailment; bankruptcy; banking operations; taxation.

BAD 315 International Business (3.0); 3 cr. An introduction to international business management principles and an overview of global organizations. Topics covered include: nature and importance of international business; human, cultural, political, economic and legal considerations in international business; commercial policies; international agreements; international trade and investment; the international monetary system. *Prerequisites:* BAD 201, ECN 212.

BAD 317 Organizational Behavior (3.0); 3 cr. An examination of the study of individual and group behavior in organizations. Topics covered include: perception; motivation; leadership; organizational development; communication; power politics; group behavior; conflicts; work design. *Prerequisite:* BAD 201.

BAD 321 Managing a Small Business (3.0); 3 cr. Procedures and techniques needed to start-up, purchase and manage a small firm. Emphasis on the differences between small and large firm environments and problems. Topics covered include: franchising; market research; site selection; sales and advertising; pricing and credit policies; managing human resources; financial planning; accounting and budgeting.

This course is a faculty major elective for IBM students.

BAD 323 Software Tools for Business Applications (3.0); 3 cr. Application of software to business information processing and decision making in different business areas. *Prerequisite:* CSC 201.

BAD 325 International Business Law (3.0); 3 cr. An introduction to the legal aspects and ramifications of international trade. Topics covered include: international business transactions including sales contracts, agency and distribution contracts, investment contracts, licensing agreement, joint ventures; intellectual property; arbitration; dispute settlement before the WTO; problems in foreign investment; tariff regulation; taxation regulation; technology transfer. *Prerequisite:* BAD 311.

BAD 329 Labor and Social Security Law (3.0); 3 cr. Exploration of individual and collective aspects of employment in Lebanon. Topics covered include: employment contract; duties of employers and employees; impact of legislation providing for health, safety and welfare; workers' compensation; industrial disputes; strikes; social security law. *Prerequisite:* BAD 311.

BAD 421 International Business Management (3.0); 3 cr. An examination of management problems of organizations with international interests. Topics covered include: nature and role of international business management; impact of cultural, political, social and economic factors on management policies and practices; strategic planning; organizing international operations; human resource management in international corporations; managing foreign-exchange risk; production and marketing; asset management; ethics and social responsibility. *Prerequisite:* Senior Standing.

BAD 423 Business Research (3.0); 3 cr. An intensive study of the objectives and methodologies of research for business decisions. Topics covered include science and the scientific method; techniques of defining problems; research design; methods for collecting, analyzing and interpreting data. Includes presentation of a research proposal. *Prerequisite:* Senior Standing.

BAD 425 Quantitative Techniques for Management (3.0); 3 cr. Quantitative techniques in problem solving and decision making using mathematical methods and modeling. Topics covered include: linear programming; network models; Markov analysis; queuing theory; decision theory; project management; simulation. *Prerequisite:* Senior Standing.

BAD 427 Human Resource Management (3.0); 3 cr. Theories, policies and practices of human resource management in a firm. Topics covered include: employee selection; training and development; performance appraisal and compensation; job analysis and design; benefits administration; labor-management relations. *Prerequisite:* BAD 317.

BAD 429 Operations Management (3.0); 3 cr. Introduction to the concepts, techniques and methodology of modern operations management. Topics covered include: forecasting; production planning and scheduling; facility location and layout; quality control; productivity; inventory systems; process design; maintenance and reliability. *Prerequisite:* Senior Standing.

BAD 431 Ethics in Business (3.0); 3 cr. A practical rather than philosophical approach to the ethical dimension of business actions. The course deals with the ethical problem and dilemmas of individuals, managers, and organizations. *Prerequisite:* Senior Standing.

BAD 433 Business Policy and Strategic Management (3.0); 3 cr. A capstone course in

management. Understanding of strategies pursued by contemporary organisations. Integration of concepts and skills previously learnt, utilizing readings, projects, simulations, and case studies. Emphasis on the strategic issues facing domestic and international firms. *Prerequisite:* Senior Standing.

BAD 453 e-Business (3.0); 3 cr. The course examines the history, foundations, tools, and major issues surrounding the electronic commerce. Students will develop skills and learn how the economic framework and electronic technology come together in actual business applications, and how these applications become operational in the global business environment. *Prerequisite:* Senior Standing.

BAD 481 International Business Management Internship; 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

BAD 482 Management Internship 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (B.B.A.) - *International Business Management*

Economic and business activity is becoming increasingly internationalized. There is a great demand for business students who are equipped with conceptual and analytical skills and can formulate feasible and effective management policies in a complex international setting. The objective of B.B.A. - International Business Management Concentration program is to answer this need.

The program provides useful preparation for careers in a variety of organizations, including local business firms with international trade, licensing or financial arrangements; headquarters or subsidiaries of multinational companies; banks and other international financial institutions; and various governmental organizations.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration -International Business Management Concentration must complete a total of 107 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and concentration requirements. These 107 credits are divided into:

Degree Requirements (107 credits)

General Education Requirements 27 cr.

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Required Common Courses 48 cr.

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, ECN 333, MRK 201, STA 206, STA 207, MAT 204, MAT 205

Required Major Courses 25 cr.

BAD 315, BAD 317, BAD 421, ECN 431, BAF 433, MRK 423, BAD 481

Plus two additional courses from the following: BAD 325, ACO 311, BAD 427, BAD 429, BAD 431, ECN 439, MRK 425

Free Electives 7 cr.

¹ Minimum passing grade is C

**Bachelor of Business Administration—International Business Management
Suggested Program (107 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 213 | English in the Workplace (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| MAT | 205 | Mathematics for Business and Economics II | 3 cr. |
| BAD | 311 | Business Law | 3 cr. |
| ECN | 333 | Managerial Economics | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| BAD | 315 | International Business | 3 cr. |
| BAD | 317 | Organizational Behavior | 3 cr. |
| BAD | 323 | Software Tools for Business Applications | 3 cr. |
| BAD | 453 | E-Business | 3 cr. |
| — | — | Business Elective | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 481 | International Business Management Internship | 1 cr. |
| — | — | GER | 6 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| MRK | 423 | International Marketing | 3 cr. |
| BAD | 421 | International Business Management | 3 cr. |
| — | — | Business Elective | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| BAF | 433 | International Business Finance | 3 cr. |
| ECN | 431 | International Economics | 3 cr. |
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |
| — | — | Free Elective | 4 cr. |
| — | — | GER | 3 cr. |

The Degree of Bachelor of Business Administration (B.B.A.) - *Marketing*

The marketing curriculum is organized around a managerial framework to provide students with an understanding of the operations and problems associated with getting the wide range of products and services required by modern society from the producer to the user. Students learn to successfully confront problems in a variety of areas and to make sound marketing decisions on the basis of careful analysis.

Marketing is a dynamic profession. There is a wide range of opportunities in marketing, including marketing management, marketing research, purchasing management, market analysis, product/brand management, retailing, sales promotion, and international marketing.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration - Marketing Concentration must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and concentration requirements. These 106 credits are divided into:

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Required Common Courses **48 cr.**

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, ECN 333, MRK 201, STA 206, STA 207, MAT 204, MAT 205.

Required Major Courses **25 cr.**

MRK 313, MRK 321, MRK 423, MRK 311, MRK 431, MRK 433, MRK 481

Plus two additional courses from the following: ACO 311, BAD 317, BAD 431, MRK 315, MRK 323, MRK 325, MRK 421, MRK 425, MRK 372

Free Electives **6 cr.**

¹ Minimum passing grade is C

**Bachelor of Business Administration (B.B.A.) – Marketing
Suggested Program (106 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| — | — | GER | 6 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| MAT | 205 | Mathematics for Business and Economics II | 3 cr. |
| MRK | 311 | Consumer Behavior | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| ECN | 333 | Managerial Economics | 3 cr. |
| MRK | 313 | Principles of Selling | 3 cr. |
| MRK | 321 | Promotional Strategy | 3 cr. |
| BAD | 323 | Software Tools for Business Applications | 3 cr. |
| BAD | 311 | Business Law | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 481 | International Business Management Internship | 1 cr. |
| — | — | GER | 6 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| MRK | 423 | International Marketing | 3 cr. |
| MRK | 431 | Marketing Research | 3 cr. |
| BAD | 453 | E-Business | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 433 | Business Policy and Strategic Management | 3 cr. |
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |
| — | — | Business Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

The Degree of Bachelor of Business Administration (B.B.A.) - *Distribution and Logistics Management*

**Degree Requirements
(106 credits)**

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Required Common Courses **48 cr.**

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 317, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, MRK 201, STA 206, STA 207, MAT 204, MAT 205.

Required Major Courses **19 cr.**

MRK 205, MRK 215, MRK 335, MRK 345, MRK 422, MRK 431, MRK 482.

Plus three additional courses from the following: MRK 311, MRK 315, MRK 323, MRK 372, MRK 404, MRK 421, MRK 423, MRK 425. **9 cr.**

One Free Electives **3 cr.**

¹ Minimum passing grade is C

**Bachelor of Business Administration (BBA)- Distribution and Logistics Management
Suggested program (106 credits)**

Fall Semester I (15 credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ACO | 201 | Principles of accounting I | 3 cr. |
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| CSC | 201 | Computers and their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 222 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 credits)

| | | | |
|-----|-----|--|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 235 | Technical English for Business (GER) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I | 3 cr. |
| MRK | 205 | Principles of Channel Management | 3 cr. |

Summer Session I (9 credits)

| | | | |
|-----|-----|---|-------|
| BAD | 201 | Fundamentals of Management | 3 cr. |
| MAT | 205 | Mathematics for Business and Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 credits)

| | | | |
|-----|-----|---|-------|
| BAD | 311 | Business Law | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |
| BAD | 323 | Software Tools for Business Application | 3 cr. |
| MRK | 215 | Fundamentals of Purchasing | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 credits)

| | | | |
|-----|-----|--|-------|
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| MRK | 335 | Materials and Warehouse Management | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Session II (9 credits)

| | | | |
|-----|-----|--|-------|
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (16 credits)

| | | | |
|-----|-----|--|-------|
| MRK | 345 | Logistics and Supply Chain Management | 3 cr. |
| ECN | 333 | Managerial Economics | 3 cr. |
| MRK | 422 | Packaging, Warehousing & Inventory Control | 3 cr. |
| MRK | — | Major elective | 3 cr. |
| MRK | 482 | Distribution and Logistics Management Internship | 1 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 credits)

| | | | |
|-----|-----|--------------------|-------|
| MRK | 431 | Marketing Research | 3 cr. |
| BAD | 453 | e-Business | 3 cr. |
| MRK | — | Major elective | 3 cr. |
| MRK | — | Major elective | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Marketing

MRK 201 Fundamentals of Marketing (3.0); 3 cr. Introduction to the marketing process in social, economic and legal environments. Topics covered include: consumer and institutional behavior patterns; market segmentation; product and service development; pricing strategy and promotion; channels of distribution; retailing and wholesaling; marketing research.

MRK 205 Principles of Channel Management (3.0); 3 cr.; This course surveys, organizes, and integrates theories and practices relative to current issues of marketing channel management, with a focus on key strategic marketing principles. Physical distribution is reviewed as a functional area within the firm and its interface with channel intermediaries is analyzed. Topics include retailing, wholesaling, industrial marketing, transportation, warehousing, location, inventory control, and channel design. *Prerequisite:* MRK 201.

MRK 215 Fundamentals of Purchasing (3.0); 3 cr; This course is designed to present the purchasing process as it relates to such topics as inventory control, price determination, vendor selection, negotiation techniques, and ethical issues. The focus of the course will be on the role and function of purchasing in the Logistics Management Process. *Prerequisite:* MRK 201.

MRK 311 Consumer Behavior (3.0); 3 cr. Concepts and theories to explain the decision making process of consumer and organizational buying. Attention is focused on economic, psychological, sociological and anthropological variables to understand, predict and control purchasing behavior. *Prerequisite:* MRK 201.

MRK 313 Salesmanship (3.0); 3 cr. Examination of persuasive techniques used in promotional presentations conducted on a person-to-person basis. Emphasis on effective selling techniques, understanding the company and its products, understanding the customer and the selling environment, recognizing selling opportunities, and planning, implementing, and control of the personal selling programs. *Prerequisite:* MRK 311.

MRK 315 Import-Export Management (3.0); 3 cr. Application of management theories to efficient management of an import-export business. Topics covered include: starting an import-export business; international trade; export financing; import-export documentation;

export promotion; tariffs and duties. *Prerequisites:* BAD 315, MRK 311.

MRK 321 Promotional Strategy (3.0); 3 cr. Introduction to various promotional strategies adopted by different companies and guidelines for determining a company's promotional mix. Topics covered include: advertising; personal selling; publicity and promotion; determination of objectives and budgets; situation analysis. Also, discussion of managerial issues and problems. *Prerequisite:* MRK 311.

MRK 323 Retail Management (3.0); 3 cr; Application of management and marketing theories to retailing. Topics covered include: Management, organization and control of retail outlets, consumer behavior, store location, financial management, promotion, presentation, pricing, control of inventories, advertising, personnel, and wholesaler-retailer relationship. *Prerequisites:* MRK 205, MRK 311.

MRK 325 Services Marketing (3.0); 3 cr. An introduction to the distinctive aspects of service marketing. Topics covered include: understanding services marketing; improving service quality and productivity; positioning a service in the marketplace; managing the customer portfolio; creating and delivering services; developing and managing the customer service function. *Prerequisite:* MRK 311.

MRK 335 Materials and Warehouse Management (3.0); 3 cr. This course covers the organization and operations of warehouses and distribution centers. Topics covered include the role, types and functions of warehouses and distribution centers, location analysis, facility layout and design, equipment handling, employee safety, public and private warehouses, computer control and tracking, conveyance equipment, and hazardous materials handling. *Prerequisite:* MRK 205.

MRK 345 Logistics and Supply Chain Management (3.0); 3 cr. This course develops an integrated approach to the analysis of physical distribution problems. It deals with transportation and assignment problems; application of network techniques to production; distribution systems design; optimal allocation of inventory; cost allocation methods; pricing policies; and power structure of shareholders within a firm. *Prerequisite:* MRK 205.

MRK 372 Internet Marketing (3.0); 3 cr. e-marketing is traditional marketing using electronic methods. It helps students develop the skills necessary to understand and integrate Internet technology and characteristics into marketing strategy. It helps students recognize and understand the implications of the Internet not only as a market place but also as a set of tools and opportunities. *Prerequisites:* MRK 201, BAD 323.

MRK 404 Transportation Management (3.0); 3 cr. This course includes an introduction to the principles of transportation with emphasis on transportation modal operations (rail, highway, air, pipeline, water transportation) and transportation management. Consideration is given to the economical, social and political aspects of the transportation industry and strategic issues in transportation management. *Prerequisite:* MRK 345.

MRK 421 Sales Management (3.0); 3 cr. Development, operation and control of a sales organization. Topics covered include: managing the sales force; selecting, training and compensating the sales force; forecasting sales and establishing budgets; structuring a sales organization; motivating salespeople. *Prerequisite:* Senior Standing.

MRK 422 Packaging, Warehousing and Inventory Control (3.0); 3 cr. The course deals with important supports for a modern material handling process. Among other things, it discusses packaging and carriers and their importance to logistics. Furthermore, it deals with systems and IT tools for material handling, such as warehouse management systems (WMS), bar codes and other identification systems, transport administration systems and systems for controlling material flows in logistical networks. The course also gives an overview of material handling equipment, such as forklifts, storage systems, bar code scanners etc. *Prerequisite:* MRK 335.

MRK 423 International Marketing (3.0); 3 cr. Analysis and strategies for marketing in an area with different social, political, legal and economic environment. Topics covered include: cross-national consumer behavior; direct foreign

investment; strategy of international product development, pricing, promotion and distribution policies; forms of international involvement. *Prerequisites:* MRK 201; ECN 212.

MRK 425 Business-to-Business Marketing (3.0); 3 cr. Development of principles of distribution of industrial goods and management of industrial marketing organizations. Topics covered include: industrial marketing system and organization buying behavior; management of industrial marketing mix; industrial market-research; planning, pricing, selling and advertising decisions; strategies for industrial markets. *Prerequisite:* MRK 423.

MRK 431 Marketing Research (3.0); 3 cr. Techniques and procedures of collecting and analyzing information to identify marketing problems and facilitate their solution. Topics covered include: marketing research design; questionnaire construction; sample design; data analysis. *Prerequisite:* MRK 201, STA 207.

MRK 433 Marketing Strategies and Policies (3.0); 3 cr. A capstone course in marketing. Emphasis on strategic and executional issues connected to marketing policy. Integration of materials previously taken, utilizing readings, projects and case studies. *Prerequisite:* Senior Standing.

MRK 481 Marketing Internship (1.0); 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

MRK 482 Distribution and Logistics Management Internship (3.0); 3 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills in logistics and distribution. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (B.B.A.) - *Human Resources Management*

Theories, policies and practices of human resources management in a firm. Topics covered include employee selection, training and development, performance appraisal and compensation, job analysis and design, benefits administration, and labor-management relations.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Required Common Courses **48 cr.**

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 317, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, MRK 201, STA 206, STA 207, MAT 204, MAT 205.

Required Major Courses **25 cr.**

MGT 201, MGT 210, MGT 312, MGT 325, MGT 453, BAD 329, MGT 483, **Plus two additional courses from the following:** MGT 202, MGT 337, MGT 411, MGT 475, BAD 427, BAD 429, BAD 431.

Free Electives **6 cr.**

¹ Minimum passing grade is C

**Bachelor of Business Administration (BBA)- Human Resources Management
Suggested Program (106 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| CSC | 201 | Computers and their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 222 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 235 | Technical English for Business (GER) | 3 cr. |
| MAT | 204 | Mathematics for Business and Economics I | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 311 | Business Law | 3 cr. |
| MGT | 201 | Principles of Human Resources Management | 3 cr. |
| BAD | 323 | Software Tools for Business Application | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| MAT | 205 | Mathematics for Business and Economics II | 3 cr. |
| BAD | 317 | Organizational Behavior | 3 cr. |
| BAD | 329 | Labor and Social Security Law | 3 cr. |
| MGT | 210 | Organizational Staffing | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |
| MGT | 312 | Training and Career Development | 3 cr. |

Fall Semester III (16 Credits)

| | | | |
|--|-----|---------------------------------------|-------|
| MGT | 325 | Compensation and Reward System | 3 cr. |
| BAD | 453 | e-Business | 3 cr. |
| MGT | 483 | Human Resources Management Internship | 1 cr. |
| — | — | GER | 6 cr. |
| and one course and one course from elective to Major Courses | | | 3 cr. |

| | | | |
|-----|-----|-------------------------------------|--|
| MGT | 202 | Business Negotiations | |
| MGT | 337 | Recruitment and Selection | |
| MGT | 411 | Leadership, Quality and Performance | |

Spring Semester III (15 Credits)

| | | | |
|--|-----|-----------------------------------|-------|
| MGT | 453 | Global Human Resources Management | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 6 cr. |
| and one course from elective to Major Courses: | | | 3 cr. |

| | | | |
|-----|-----|--|--|
| MGT | 475 | Managing Employment Relations | |
| BAD | 427 | Advanced Human Resources Management | |
| BAD | 431 | Ethics in Business | |
| BAD | 429 | Operations Management | |
| MGT | 201 | Principles of Human Resources Management | |

Undergraduate Courses: Human Resource Management

MGT 201 Principles of Human Resources Management (3.0); 3 cr. Theories, policies and practices of human resources management in a firm. Topics covered include employee selection, training and development, performance appraisal and compensation, job analysis and design, benefits administration, and labor-management relations.

MGT 202 Business Negotiations (3.0); 3 cr. Negotiation permeates human interactions. It affects the balance and distribution of resources among nations, organizations, families, and individuals. Students will understand the theory behind successful negotiation, recognize situations that call for negotiation, and study the utilization of alternative negotiating strategies and tactics. *Prerequisite:* MGT 201.

MGT 210 Organizational Staffing (3.0); 3 cr. This course provides an in-depth examination of the organizational staffing process. Procedures for human resources needs assessment such as personnel audits and forecasting are discussed. Recruitment strategies and the process of organizational choice of candidates are explored. There is emphasis on understanding basic types of assessment tools and procedures for choosing new employees. *Prerequisite:* MGT 201.

MGT 312 Training and Career Development (3.0); 3 cr. The course is an advanced study of personnel training and development in contemporary organizations. Emphasis is placed on the identification of training needs, program design, selection of training methods, monitoring the process, and evaluating the results. *Prerequisite:* MGT 210.

MGT 325 Compensation and Reward Systems (3.0); 3 cr. This course provides the study of labor markets and examines the general structure of an organization and the rewards employees seek in exchange for their services and contributions to the firm. Topics covered include developing pay structure, measuring performance, providing employee benefits, rewards and a motivating work environment, and administering the compensation plan. *Prerequisite:* MGT 210.

MGT 337 Recruitment and Selection (3.0); 3 cr. The objective of this course is to describe to students how organizations search for prospective employees and influence them to apply for available jobs. It is an advanced study of recruitment and selection practices of organizations. *Prerequisite:* MGT 210.

MGT 411 Leadership, Quality and Performance (3.0); 3 cr. The purpose of this course is to focus on the major traits which come together in a leader to produce Leadership. Theory, Power, Motivation, and Communication, this course explores the causes and consequences of effective leadership in organizations. *Prerequisite:* Senior Standing.

MGT 453 Global Human Resources Management (3.0); 3 cr. This course is designed to help students develop skills as global managers and to provide them with an understanding of critical issues in the management of multinational organizations. Topics covered include international leadership skills, cross-cultural negotiations, ethical dilemmas in cross-cultural environments, and designing and managing multinational organizations. *Prerequisite:* Senior Standing.

MGT 475 Managing Employment Relations (3.0); 3 cr. This course provides an overview of the relationships between human resources and parties to employment. It considers contract negotiations, discipline and grievance procedures, and human resources department assistance in conflict resolutions. Special attention is given to the organizational structure of the parties and their diversified objectives. *Prerequisites:* MGT 210, BAD 329.

MGT 483 Human Resources Management Internship (1.0); 1 cr. The Internship program is designed to provide the Interns with the opportunity to develop professional skills related to their studies by working under the supervision of an experienced business practitioner. Internship is conducted under the supervision of a program director at NDU and in cooperation with the Interns employer. A minimum of 120 working hours are required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (B.B.A.) – Health Care Management

Health Care Management: Why?

The health care industry size is growing in the whole middle east. Growth is driven by:

1. Increasing consumerism and health needs
2. Advancing technologies
3. Changing regulation
4. Population aging

Business orientation is essential and the health care profession's tracks need preparation and exposure to the health care industry. There is a real market demand for graduates that are well educated in this field.

Program Objective

The BBA- Health Care Management option is designed to provide students with an understanding of the processes and structures of Health Care Organizations to enable them to be more effective managers. The courses taken in addition to the required common courses provide the students with proficiency in management skills and decision-making processes.

This program has an innovative approach whereby the first year is common to all our faculty programs and the concentration courses start in the second semester of the second year. It has a unique market-oriented approach to curriculum design and course administration. All concentration courses will be taught by professionals having a strong experience in the health care industry.

Careers in health care management

This program prepares candidates for managerial responsibilities in both the private and public sectors of the health care industry. Health care management majors will be qualified for making a career in:

- hospitals
- physician group practices and clinics
- diagnostic and ambulatory care centers
- rehabilitation clinics and long term care facilities
- international pharmaceuticals firms
- medical suppliers and pharmaceutical firms
- pharmaceutical manufacturers (under license)
- medical insurers
- government and non governmental organizations (ngo)

Admissions Requirements

Applicants must pass the Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by the Lebanese Ministry of Education. They are required to sit for an English Entrance Test (EET) or TOEFL and a Mathematics Test.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the common core and major requirements. The passing grade for all Required Major (HCM) Courses is C. These 106 credits are divided into:

**Degree Requirements
(106 credits)**

| | |
|---|-------------------|
| General Education Requirements | 27 cr. |
| Communication Skills ENL 213, ENL 230. | 6 cr. |
| Computer Skills CSC 201 | 3 cr. |
| Cultural Studies REG 212 or 213, ARB 211 or 231. | 6 cr. |
| Social science studies choose two from the following list: HIT 211, HUT 305 or 306. PHL 311, POS 201, PSL 201, SOL 201. | 6 cr. |
| Basic Science Studies ENS 312 or HEA 201, BIO 203 | 6 cr. |
| Required Common Courses | 48 cr. |
| ACO 201, ACO 202, BAD 201, BAD 315, BAD 317, BAD 323, BAD 433, BAD 453, BAD 427, BAD 429, BAF 311, ECN 211, ECN 212, MRK 201, STA 206, STA 207. | |
| Required Major Courses | 28 cr. |
| HCM 301, HCM 302, HCM 401, HCM 402, HCM 403, HCM 404, HCM 405, HCM 406, HCM 407, HCM 408. | |
| Free Electives | 3 cr. |

Bachelor of Business Administration (BBA)- Health Care Management
Suggested Program (106 Credits)

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| ACO | 202 | Principles of Accounting II | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| BIO | 203 | Discover Biology | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--|-------|
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| STA | 207 | Applied Statistics for Business and Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| BAD | 315 | International Business | 3 cr. |
| BAD | 317 | Organizational Behavior | 3 cr. |
| BAF | 311 | Principles of Financial Management I | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| HCM | 301 | Introduction to Health Care Management | 3 cr. |
| HCM | 302 | Health Care Economics | 3 cr. |
| BAD | 323 | Software Tools for Business Applications | 3 cr. |
| ENS | 312 | Environmental Health (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|--|-------|
| BAD | 482 | Management Internship | 1 cr. |
| BAD | 427 | Human Resource Management | 3 cr. |
| BAD | 433 | Business Policy and Strategic Management | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| HCM | 401 | Management of Health Care Organizations I | 3 cr. |
| HCM | 406 | Health Care Legal Environment | 3 cr. |
| HCM | 404 | Health Care Marketing Management | 3 cr. |
| BAD | 429 | Operations Management | 3 cr. |
| BAD | 453 | e-Business | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| HCM | 402 | Management of Health Care Organizations II | 3 cr. |
| HCM | 403 | Health Care Strategic Management | 3 cr. |
| HCM | 405 | Health Care Financial Management | 3 cr. |
| HCM | 407 | Seminars and Topics in Health Care Management | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Health Care Management

HCM 301 Introduction to Health Care Management (3.0), 3 cr. This course provides an overview of the evolution, structure and current issues in the health care system. It examines the unique features of health care as a product, and the changing relationships between patients, physicians, hospitals, insurers, employers, communities, and government. The course examines three broad segments of the health care industry: payers, providers, and suppliers. Within the payer segment, the course examines the sources and destinations of spending, MOH, CNSS, insurance, technology assessment and renewal, and payer strategy. Within the provider segment, the course examines the impact of cost containment and competition on hospitals and integrated HC delivery systems, and physicians' relationships. Within the supplier segment, the course will examine developments in the biotechnology, pharmaceutical, medical devices (equipment and supplies), genomic and IT industries.

HCM 302 Health Care Economics (3.0), 3 cr. This course is designed to build an understanding of the healthcare delivery system from an applied economics perspective. The application of these skills will be drawn from examples that illustrate the production of and demand for health. The economic analysis of health care delivery is based on microeconomic theory: elasticity of demand, price sensitivity, etc. As the managed care model develops, greater emphasis is being placed on individual choice and responsibility as determinants of healthcare utilization. This trend has resulted in greater emphasis on the use of economic theory to both plan and evaluate the healthcare setting. Insurance is a major economic lever of these trends. The rationale for government intervention in medical markets as well as the effectiveness and efficiency of various health policies, including: MOH medical aid, CNSS coverage, price regulation of hospitals, physician payment reform, are surveyed. *Prerequisite:* ECN 212.

HCM 401 Management Of Health Care Organizations I (3.0), 3 cr. The purpose of this course is to prepare you for managing health care organizations within an environment of cost containment and quality management of health care services. In Module I, we will first focus on the profession of health care management. This will present a picture of the daily tasks health

care managers faces and knowledge, skills, and abilities needed to be successful. The second focus is on the management of health care teams. This section will equip the student to participate in and successfully manage, coach and/or mentor teams of clinicians, managers, and others. *Prerequisites:* ENS 312 HCM 301, HCM 302.

HCM 402 Management Of Health Care Organizations II (3.0), 3 cr. The purpose of this course is to prepare you for managing health care organizations within an environment of cost containment and quality management of health care services. In Module II, we will focus on quality improvement since many health care facilities are turning to total quality management concepts and processes as they strive for efficiency in operations and improvement of medical care delivered. Cost containment programs will be discussed with an emphasis on supply chain management and IT driven processes. *Prerequisite:* HCM 401.

HCM 403 Health Care Strategic Management (3.0), 3 cr. This course provides an introduction to how healthcare organizations (Payers, Providers, Suppliers) identify, create, and market their services within the context of a long-term strategic plan. The course will analyze the evolution of strategic management within the healthcare industry, and how it has responded to individuals in need of healthcare services. The class will also examine the core components of a strategic management approach, including situation analysis, formulation of a strategy, implementation, and follow-up relative to the mission and vision of the healthcare organization. As an adjunct to these concepts, the class will review real world cases studies from throughout the healthcare industry. Finally, the communication of the organization's mission, vision, and overall strategic management plan will be discussed. *Prerequisites:* HCM 301, HCM 302.

HCM 404 Health Care Marketing Management (3.0), 3 cr. This course focuses on strategic and tactical marketing issues facing health systems including: payers, providers and suppliers. The course requires a basic understanding of what is marketing. Emphasis is placed on analyzing market and patient needs and on understanding branding, service line marketing, patient retention, patient satisfaction,

measuring marketing effectiveness, internet marketing and marketing implementation programs. The course explores the practical application of these marketing concepts on major industry players: Hospitals, Insurers, Medical Device Suppliers, and Pharmaceutical companies. *Prerequisites:* MRK 201, HCM 301, HCM 302.

HCM 405 Health Care Financial Management (3.0), 3 cr. This course examines the tools and methods of financial management in health care organizations with emphasis on allocation and use of funds in managing the components of health care delivery systems. Analysis of cost drivers and constraints of alternative source of funds, and the application of financial decision instruments and their effect on operational management and market value of the entity, including valuation methodology and risk management, are covered. Modeling profitability analysis and planning for health care providers and payers is surveyed. *Prerequisites:* BAF 311, HCM 301, HCM 302.

HCM 406 Health Care Legal Environment (3.0); 3 cr. This course examines the tools and methods of financial management in health care organizations with emphasis on allocation and use of funds in managing the components of health care delivery systems. Analysis of cost drivers and constraints of alternative source of funds, and the application of financial decision instruments and their effect on operational management and market value of the entity, including valuation methodology and risk management, are covered. Modeling profitability

analysis and planning for health care providers and payers is surveyed. *Prerequisites:* HCM 301, HCM 302.

HCM 407 Seminars and Topics in Health Care Management (3.0); 3 cr. Health care organizations are under continued pressure to contain costs while maintaining high quality health care. The purpose of this course is twofold: (1) to help you learn about the many controversial issues facing the healthcare industry; and (2) to prepare you for analyzing the issues affecting health care institutions, including payers, providers, and suppliers. You will learn how the various sectors of the health care delivery system deal with conflicting demands from an assortment of stakeholders, including governments, insurers, suppliers, employers, health care professionals, and patients. *Prerequisites:* HCM 401, HCM 402, HCM 403.

HCM 408 Health Care Internship Program (3.0); 3 cr. This course is required of all students in the Health Care Management Program. The course is designed to give students first hand experience in a health care setting. Students receive practical experience under the supervision of a qualified professional. In collaboration with the preceptor, students define a complex problem in the assigned firm/facility and in the area of responsibility, conduct an analysis of the problem and conceptualize a project to resolve the problem. In addition, upon completion of the course students should have the tools to effectively search for their first job. *Prerequisites:* HCM 301, HCM 302.

DEPARTMENT OF HOSPITALITY AND TOURISM MANAGEMENT

Chairperson: *Dr. Yussef Zgheib*

Secretary: *Miss Samar Mrad*

Assistant Professor

Zgheib, Yussef, Ph.D. 2002, University of Strathclyde, Scotland, UK

International Hospitality Management

Lecturer

Assaf, Carole, M.B.A., 1995, Notre Dame University - Louaize, Lebanon

Assaker, Guy, M.B.A., 2003, IMHI Cornell University/Essec, France. MSc (DESS), 2004, Université Paris 1, Sorbone.

Hotel Management and Tourism

Beyrouthy, Ghassan, M.B.A., 1999, Notre Dame University- Louaize, Lebanon

Hospitality and Tourism Management

The Degree of Bachelor of Hotel Management and Tourism

Hospitality, travel and tourism are rapidly growing industries. The NDU program of Bachelor of Hotel Management and Tourism is designed to prepare students for successful professional and executive careers in the hospitality and tourism industries by allowing them to specialize in one of the following three concentrations: Hospitality Services Management, Food & Beverage Operations Management, as well as Travel and Tourism Management.

The various concentrations provide a sound foundation in hotel and restaurant management as well as tourism administration through focused academic coursework, hands-on work experience, and intense interaction with the industry. They also provide relevant educational opportunities for persons currently employed in these industries and wishing to upgrade their skills.

Hospitality and Tourism Management students at NDU benefit from a rare opportunity to learn the international management techniques for success in the hospitality and tourism field, while also seeking knowledge more adapted to their professional career orientations and specializations.

In 2006 NDU's Department of Hospitality and Tourism Management signed a unique educational venture partnership with SHMS¹, a leading Swiss Hotel Management School. This collaboration intends to combine the Swiss art of *hôtellerie* and the more American science of management in practice at NDU. It comprises exchange of know how, faculty and students, industry consultancy, and leads to a potential dual diploma-degree in Hospitality Management.

Graduation Requirements

Students seeking the degree of Bachelor of Hotel Management and Tourism must complete a total of 103 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the major and concentration requirements. The passing grade for all courses is "D" except for ENL 105, ENL 110 whereby it is "C". These 103 credits are divided into:

¹ Swiss Hotel Management School, composed of three main city campuses located in: Caux, Montreux and Leysin

Degree Requirements (103 credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies ^{1 2} | 9 cr. |
| Arabic, Western Litterature, Religion, Philosophy, Cultural Sequence, Art, Music, etc. | |
| Social Science Studies ² | 3 cr. |
| 3 credits in Sociology, Psychology, Political Science, History, Economics, Anthropology etc. | |
| Basic Science Studies ² | 6 cr. |
| 6 credits in Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc. | |
| | |
| Major Requirements | 54 cr. |
| TTM 201, TTM 204, HSM 205, HSM 211, HSM 224, HSM 226, TTM 237, HSM 281, HSM 311, FBM 313, HSM 314, FBM 315, HSM 319, FBM 324, TTM 326, FBM 351, HSM 411, HSM 451, HSM 459, STA 206 | |
| | |
| Concentration Requirements | 19 cr. |
| Food and Beverage Management Concentration Hospitality Management Concentration Travel and Tourism Management Concentration | |
| | |
| Free Electives | 3 cr. |
| Halfway through their university education, students majoring in hotel management and tourism are provided with the opportunity to choose one of three concentration schemes. These options allow graduates to enhance their expert knowledge in one of the three most englobing fields of hospitality and tourism, thus differentiate themselves from their peers and improve their potentials for professional success. | |
| | |
| A - Food and Beverage Management Concentration (19 cr.): | |
| Major Requirements | 10 cr. |
| FBM 332, FBM 381, FBM 413, FBM 424 | |
| | |
| A choice of 3 courses from the following | 9 cr. |
| HSM 334, FBM 335, FBM 343, FBM 349, HSM 412, HSM 432, HSM 437, HSM 439, TTM 440, FBM 444, FBM 446, HSM 447, HSM 449, FBM 464, HSM 450, HSM 485, MAT 204, STA 207, ECN 211, COA 252, BAF 312, NTR 212, GEM 202 or ITL 202 or SPN 202 | |

¹ Includes mandatory 3 credits of religion (REG 215 or REG 216) and 3 credits of living language (GEM 201, ITL 201, SPN 201...)

² Specific courses to be selected from the reviewed curricula and syllabi proposed by the related departments. The selection will be based on the contribution of such course to the professional and cultural development of the student. Details specified on the contract sheet.

B - Hospitality Management Concentration (19 cr.):

Major Requirements

7 cr.

FBM 381 or TTM 382, HSM 432, HSM 437

A choice of 4 courses from the following

12 cr.

FBM 332, HSM 334, TTM 342, FBM 343, TTM 344, TTM 346, FBM 349, HSM 412, FBM 424, HSM 439, TTM 440, FBM 444, TTM 445, FBM 446, HSM 447, HSM 449, HSM 450, HSM 460, HSM 485, MAT 204, STA 207, ECN 211, COA 252, BAF 312, NTR 212, GEM 202 or ITL 202 or SPN 202

C - Travel and Tourism Management Concentration (19 cr.):

Major Requirements

10 cr.

TTM 342, TTM 345, TTM 382, TTM 445

A choice of 3 courses from the following

9 cr.

HSM 334, TTM 341, FBM 343, TTM 344, TTM 346, FBM 349, HSM 412, HSM 432, HSM 437, HSM 439, TTM 440, FBM 444, FBM 446, HSM 447, HSM 449, HSM 450, TTM 454, TTM 462, HSM 485, MAT 204, STA 207, ECN 211, COA 252, BAF 312, NTR 212, GEM 202 or ITL 202 or SPN 202, ARP 567

NB: Clarification of acronyms and symbols used:

FBM Food and Beverage Management
HSM Hospitality Services Management
TTM Travel and Tourism Management

**Bachelor of Hotel Management and Tourism - Food & Beverage Management Concentration
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--|-------|
| TTM | 201 | Introduction to Tourism and Hospitality Management | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 211 | Hospitality and Tourism Law | 3 cr. |
| HSM | 224 | Front Office Operations and Management ¹ | 3 cr. |
| HSM | 226 | Housekeeping Operations and Management ¹ | 1 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HSM | 205 | Principles of Hospitality Financial Accounting | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (4 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 281 | Internship I: Rooms Division Operations | 1 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (16Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 311 | Hospitality Managerial Accounting | 3 cr. |
| FBM | 313 | Food Production ² | 3 cr. |
| FBM | 315 | Food Production Lab ² | 1 cr. |
| FBM | 324 | Restaurant Operations and Floor Management ² | 3 cr. |
| TTM | 237 | Hospitality and Tourism Marketing | 3 cr. |
| — | — | GER | 3 cr. |

Final deadline to declare concentration choice.

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| TTM | 204 | Economics of Tourism | 3 cr. |
| HSM | 314 | Human Resources Management in the Hospitality Industry | 3 cr. |
| HSM | 319 | Information Technology in the Hospitality Industry | 3 cr. |
| FBM | 351 | Food, Beverage and Labor Cost Control | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|---|-------|
| FBM | 381 | Internship II: Food and Beverage Operations | 1 cr. |
| FBM | 332 | Catering, Functions and Banqueting Management | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| FBM | 424 | Restaurant Development and Management | 3 cr. |
| FBM | 413 | Advanced Food Production | 3 cr. |
| HSM | 411 | Hospitality Managerial Finance | 3 cr. |
| HSM | 451 | Hospitality Management | 3 cr. |
| — | — | Major Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| TTM | 326 | Domestic Travel and Tourism Development | 3 cr. |
| TTM | 459 | Hospitality and Tourism Strategic Management | 3 cr. |
| — | — | Major Elective | 6 cr. |
| — | — | Free Elective | 3 cr. |

¹ HSM 224, 226 should be taken concurrently.

² FBM 313, 315, 324 should be taken concurrently.

Bachelor of Hotel Management and Tourism - Hospitality Management Concentration
Suggested Program (103 Credits)

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--|-------|
| TTM | 201 | Introduction to Tourism and Hospitality Management | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 211 | Hospitality and Tourism Law | 3 cr. |
| HSM | 224 | Front Office Operations and Management ¹ | 3 cr. |
| HSM | 226 | Housekeeping Operations and Management ¹ | 1 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HSM | 205 | Principles of Hospitality Financial Accounting | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (4 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 281 | Internship I: Rooms Division Operations | 1 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (16Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 311 | Hospitality Managerial Accounting | 3 cr. |
| FBM | 313 | Food Production ² | 3 cr. |
| FBM | 315 | Food Production Lab ² | 1 cr. |
| FBM | 324 | Restaurant Operations and Floor Management ² | 3 cr. |
| TTM | 237 | Hospitality and Tourism Marketing | 3 cr. |
| — | — | GER | 3 cr. |

Final deadline to declare concentration choice.

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| TTM | 204 | Economics of Tourism | 3 cr. |
| HSM | 314 | Human Resources Management in the Hospitality Industry | 3 cr. |
| HSM | 319 | Information Technology in the Hospitality Industry | 3 cr. |
| — | — | Major Elective (TTM 342 if planning to take 382) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|---|-------|
| FBM | 381 | Internship II: Food and Beverage Operations | |
| or | | | 1 cr. |
| TTM | 382 | Internship III: Travel Agency and Tour Operations | |
| HSM | 437 | Hospitality Sales and Promotional Techniques | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| FBM | 351 | Food, Beverage and Labor Cost Control | 3 cr. |
| HSM | 432 | Hospitality Property Management | 3 cr. |
| HSM | 451 | Hospitality Management | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| HSM | 411 | Hospitality Managerial Finance | 3 cr. |
| HSM | 459 | Hospitality and Tourism Strategic Management | 3 cr. |
| — | — | Major Elective | 6 cr. |
| — | — | Free Elective | 3 cr. |

¹ HSM 224, 226 should be taken concurrently.

² FBM 313, 315, 324 should be taken concurrently.

**Bachelor of Hotel Management and Tourism - Travel & Tourism Management Concentration
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--|-------|
| TTM | 201 | Introduction to Tourism and Hospitality Management | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| STA | 206 | Applied Statistics for Business and Economics I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 211 | Hospitality and Tourism Law | 3 cr. |
| HSM | 224 | Front Office Operations and Management ¹ | 3 cr. |
| HSM | 226 | Housekeeping Operations and Management ¹ | 1 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HSM | 205 | Principles of Hospitality Financial Accounting | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (4 Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 281 | Internship I: Rooms Division Operations | 1 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (16Credits)

| | | | |
|-----|-----|---|-------|
| HSM | 311 | Hospitality Managerial Accounting | 3 cr. |
| FBM | 313 | Food Production ² | 3 cr. |
| FBM | 315 | Food Production Lab ² | 1 cr. |
| FBM | 324 | Restaurant Operations and Floor Management ² | 3 cr. |
| TTM | 237 | Hospitality and Tourism Marketing | 3 cr. |
| — | — | GER | 3 cr. |

Final deadline to declare concentration choice.

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| TTM | 204 | Economics of Tourism | 3 cr. |
| HSM | 314 | Human Resources Management in the Hospitality Industry | 3 cr. |
| HSM | 319 | Information Technology in the Hospitality Industry | 3 cr. |
| TTM | 342 | Travel Agency and Tour Management | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|---|-------|
| TTM | 382 | Internship III: Travel Agency and Tour Operations | 1 cr. |
| TTM | 345 | Passenger Operation Services | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| FBM | 351 | Food, Beverage and Labor Cost Control | 3 cr. |
| HSM | 451 | Hospitality Management | 3 cr. |
| TTM | 326 | Domestic Travel and Tourism Development | 3 cr. |
| TTM | 445 | Sustainable Tourism | 3 cr. |
| — | — | Major Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| HSM | 411 | Hospitality Managerial Finance | 3 cr. |
| HSM | 459 | Hospitality and Tourism Strategic Management | 3 cr. |
| — | — | Major Elective | 6 cr. |
| — | — | Free Elective | 3 cr. |

¹ HSM 224, 226 should be taken concurrently.

² FBM 313, 315, 324 should be taken concurrently.

Undergraduate Courses: Hotel Management And Tourism

TTM 201 Introduction to Tourism & Hospitality Management (3.0); 3 cr. A comprehensive overview of the tourism and hospitality global industry. The course is a broad introduction of the industry's scope, supply and demand components, socio-economic and environmental impacts, operations, career opportunities and requirements for success. Students further gain exposure to the basic managerial functions and how they relate to the tourism and hospitality industry.

TTM 204 Economics of Tourism (3.0); 3 cr. This course applies economic principles to the tourism and hospitality industry. Special emphasis is placed on supply and demand and the determination of prices. It also discusses the impact of the GDP, growth and fluctuations on the Tourism industry. The course further focuses on the contribution of tourism to the overall performance of the economy.

HSM 205 Principles of Hospitality Financial Accounting (3.0); 3 cr. Hospitality accounting principles, concepts and practices pursuant to the industry's systems of accounts. Careful consideration is given to practical transaction analysis, flow of accounting data to the financial statements and their implications with respect to cash flow, revenues, expenses, assets, liabilities and equity management. *Corequisite:* TTM 201.

HSM 211 Hospitality and Tourism Law (3.0); 3 cr. A study of the legal responsibilities affecting the operations of the hospitality and tourist industries, including aspects of innkeeping, occupier's liability, trades practices, licensing, health, taxation and employment. Other topics include: corporation legislation, the law of contract, the role of ethics and a comparative approach to foreign legislations relating to hospitality and tourism industries. *Prerequisite:* TTM 201.

HSM 224 Front Office Operations and Management (3.1); 3 cr. The course acquaints the student with the operations and procedures involved in managing the guest services area of a lodging operation. Functions covered deal with the guest cycle from reservations through checkout including the night audit and their interaction with other operations. Intensive lab applications. *Prerequisite:* TTM 201.

HSM 226 Housekeeping Operations and Management (1.3); 1 cr. This course is a guide to various aspects of housekeeping in a lodging industry from cleanliness, hygiene, maintenance and aesthetic upkeep of the property. It deals with duties from those of executive housekeeper to room attendant. Intensive lab applications. *Corequisite:* HSM 224.

TTM 237 Hospitality and Tourism Marketing (3.0); 3 cr. An introduction to the concept, principles and practices of contemporary marketing as they apply to the specialized needs of the hospitality industry. Subjects covered are marketing concepts and environment, segmentation and positioning, consumer behavior and marketing mixed strategies. The development of a practical marketing plan for an actual hospitality business is a special feature of this course. *Prerequisite:* TTM 201.

HSM 281 Internship I: Rooms Division Operations 1 cr. A supervised on-the-job work experience in the lodging business. Arranged with a Department approved cooperating institution. This field experience - of no less than 500 hours - emphasizes front office and housekeeping operations and management tasks. Student must check course guidelines before registering. *Prerequisites:* HSM 224, HSM 226.

HSM 311 Hospitality Managerial Accounting (3.0); 3 cr. This course focuses on the use of accounting information for management decision-making and control. Topics include costing, management control systems and performance measurement. Emphasis is on cost-volume analysis, budgeting and pricing decisions. *Prerequisite:* HSM 205.

FBM 313 Food Production (3.0); 3 cr. An introduction to food production techniques and management. The course is designed to familiarize students with food composition and properties, commercial food preparation, safety and sanitation. Students will develop the ability to standardize recipes, plan menus and manage potential production problems. Practical involvement in food production is included. Intensive lab applications. *Prerequisite:* TTM 201 (for HTM students only); *Corequisite:* FBM 315 for HTM students only.

HSM 314 Human Resources Management in the Hospitality Industry (3.0); 3 cr.

Knowledge of the human resources management function in the context of hospitality organizations is developed. In addition to personnel management techniques, exposure will focus on the HRM activities aimed at attracting, retaining and motivating hospitality employees. *Prerequisite:* TTM 201.

FBM 315 Food Production Lab (0,3); 1 cr. Practical implementation of the culinary concepts and techniques taught in Food Production (FBM 313). (*Corequisite:* FBM 313 for HTM students only).

HSM 319 Information Technology in the Hospitality Industry (3.1); 3 cr. This course aims to provide students with a competence in the computerized property management systems used in hotels and restaurants. Information processing concepts, equipments and systems with respect to front office and restaurant automation are introduced. Applied software programs are used intensively. Intensive lab applications. *Corequisite:* HSM 224.

FBM 324 Restaurant Operations and Floor Management (3.1); 3 cr. An extensive theoretical and practical exposure to dining room operations and management. Students learn and practice different service and functions concepts as well as learn to manage scheduling, hosting, selling, cashiering, sanitation and safety, and operational performance. Service and related software labs are intensely used. *Prerequisite:* FBM 313.

TTM 326 Domestic Travel and Tourism Development (3.0); 3 cr. The course provides a complete description and geography of domestic tourism from the view-point of the traveler and the travel/tourism entrepreneur. Students will gain a solid practical understanding of local travel and tourism development and potentials from a specific destination and potentials. Field trips and projects are part of this course. *Prerequisite:* TTM 237.

FBM 332 Catering, Functions and Banqueting Management (3.0); 3 cr. Course leading to a thorough understanding of the different catering concepts for special functions. Lectures and demonstrations focus on menu planning, working methods, catering equipment, kitchen and service layout, service, events preparation and execution, sales, and human resources organization. The course will equip students to operate and manage different types

of food and beverage service, on and off premises. *Prerequisite:* FBM 313.

HSM 334 Resort & Receptions Management (3.0); 3 cr. Resorts & Recreation systems include the environmental, social, managerial resources and the methods for development of full service resorts and recreations. Comparison of specialized requirements for different types of resorts based on location, climate, activities, human resources and life style. The goal of this course is to help students develop a related understanding of the principles of project development, construction, supervision, pre-opening requirements and operations.

FBM 335 Institutional and Contract Foodservice Management (3.0); 3 cr. Administration of foodservice operations in noncommercial, convenience and contract-managed facilities. Characteristics and operations of specialty businesses such as health-care, cafeteria, industrial, foodservice vending and in-flight catering are studied. Field Trips and projects supplement classroom sessions. *Corequisite:* FBM 324.

TTM 341 International Air Law (3.0); 3 cr. This course establishes a solid core of knowledge of the principal instruments of international air law. It will allow the student to understand interpret and apply the main rules and regulations of air law. It will also explain the legal framework governing aircraft security, interception of aircraft & piracy, alliances & their impact, and the legal issues surrounding the airline distribution.

TTM 342 Travel Agency and Tour Management (3.0); 3 cr. A thorough examination of the services and functions of retail and wholesale travel agencies. Specifically covered are agency organization, automation and operations as well as wholesale package planning, implementation and evaluation. Field trips and actual projects will supplement classroom discussions. *Corequisite:* TTM 326.

FBM 343 Purchasing for Hospitality Operations (3.0); 3 cr. A comprehensive exposure to the basic principles of purchasing food, beverage, equipment, supplies and contract services. Specific topics include product specifications and ordering, supplier selection, store management and negotiations. Field Trips included. *Prerequisite:* FBM 313.

TTM 344 International Travel and Tourism (3.0); 3 cr. A complete description and

geography of international travel, notably current trends and cultural behavior, popular destinations, and international tourism organizations as well as major international travel transportation modes and routes. A comparative approach and evaluation of national and international destinations organization, management and marketing.

TTM 345 Airline Passenger Services (3.0); 3 cr. An introduction to the most important air transport service and safety skills essential to maintain traveller satisfaction. The course enables students to understand the application of international air transport standards relating to passenger and baggage handling functions. Practical working knowledge of airport passenger service functions will be acquired. *Corequisite:* TTM 342

TTM 346 Automated Travel System (3.0) 3 cr. A comprehensive, hands-on computer learning experience. Students will progress from the characteristics and development of automation in the retail travel agency to practical applications in computerized reservations and back-office systems. *Corequisite:* TTM 342.

FBM 349 International Cuisine (3.1); 3 cr. Broadens students knowledge of menus and the popular national cuisines riding the international trendy wave. Emphasis is placed on concepts, cultural contexts, food preparation and service characteristics. Managerial perspective is also used related to nutrition, menu adaptability, architectural layouts, costing and marketing. Course is heavily application oriented. *Prerequisite:* FBM 313.

FBM 351 Food, Beverage and Labor Cost Control (3.0); 3 cr. This fundamental course is designed to familiarize the student with the theory and practice of internal cost controls in the hospitality industry. A comprehensive and thorough understanding of quality assurance versus cost impact on profitability management is provided. Practical financial problems and actual operational techniques of functioning systems of internal control are studied. The focus is to provide future hospitality managers with the ability to handle the diverse issues regarding service quality, employee morale and cost management. *Prerequisites:* HSM 311, FBM 313.

FBM 381 Internship II: Food and Beverage Operations 1 cr. A supervised on-the-job work experience in the food and beverage business,

particularly restaurants and catering. Arranged with a Department approved cooperating institution, this field experience - of no less than 500 hours - emphasizes operations and management functions in service, production, inventory and cost control. Student must check course guidelines before registering. *Prerequisite:* FBM 324.

TTM 382 Internship III: Travel Agency and Tour Operations 1 cr. A supervised on-the-job work experience in the travel and tourism business, particularly travel agency and tour operations. Arranged with a Department approved cooperating institution, this field experience - of no less than 500 hours - emphasizes agency and group travel operations and management functions. Student must check course guidelines before registering. *Corequisites:* TTM 326, TTM 342, TTM 344.

HSM 411 Hospitality Managerial Finance (3.0); 3 cr. Understanding the role of the hospitality financial controller through the application of accounting, finance and cost control principles, aimed at maximizing the organization value. Focus areas include: preparation of financial statements, bond and stock valuation, working capital management, short-term financing, capital budgeting and alternative financing arrangements. *Prerequisite:* HSM 311.

HSM 412 Intermediate Business Finance (3.0); 3 cr. Building on the concepts developed in HSM 411, this course focuses on corporate financial management including risk analysis, security markets operations and international finance. *Prerequisite:* HSM 411.

FBM 413 Advanced Food Production (1.3); 3 cr. The course aims to examine latest techniques and production systems in the food service industry. Commercialized innovations in forms of food, techniques in production, storing and serving, and new technological developments in food service equipments are explored. *Prerequisite:* FBM 313.

FBM 424 Restaurant Development and Management (3.0); 3 cr. Students systematically plan and develop a restaurant from concept to operations. The course comprises concept analysis, feasibility study, menu development and pricing, technical and architectural planning, staffing, and pre-opening, opening and operational administration. An

applied project approach is used. *Prerequisite:* FBM 324.

HSM 432 Hospitality Property Management (3.0); 3 cr. This course provides an understanding of the peculiar responsibilities of the engineering and maintenance department. It includes a basic technical understanding of the major building operating systems (HVAC, sound, water, safety and security), landscaping as well as the related operating energy and cost management. Field property visits included.

HSM 437 Hospitality Sales and Promotional Techniques (3.0); 3 cr. An analysis of hospitality buyers' motivations and behavior, and the related effective promotional and sales techniques. This partly experiential course provides the opportunity to develop and practice promotional and personal-selling skills. *Prerequisite:* TTM 237

HSM 439 Market and Feasibility Studies (3.0) 3 cr. Study of the techniques used to conduct standard market and feasibility studies for hospitality properties and tourism developments. Analysis include supply, demand, site evaluation, risk assessment and operational and financial projections. *Prerequisite:* TTM 237, STA 206.

TTM 440 Tourism and Multicultural Management (3.0) 3 cr. In-depth examination of differences in culture, customs and behaviors in the hospitality/tourism industry. Students will focus on cultural differences and the varying needs of international tourists. This course addresses the significance of art, customs, traditions, and visitor management to educate the traveler and preserve cultural diversity.

FBM 444 Alcoholic Beverages Appreciation (3.0); 3 cr. This course provides knowledge and appreciation of the major alcoholic beverage from cultural background to production, evaluation purchasing, storing and service etiquette. Wine, whisky, arak, beer and spirits are emphasized. A further introduction to coffee, tea and non-alcoholic beverages is provided. Evaluation by tasting is an integral part of the course. Laboratory fee.

TTM 445 Sustainable Tourism (3.0); 3 cr. A deeper understanding and analysis of the business-society interface. Policy guidelines to bring both hospitality business and society towards sustainable, workable and mutually beneficial solutions are studied. Topics investigated: ecotourism, corporate policy and

social responsibility, ethics and values in business, business interests and community issues, business and media relations, corporation and government relations.

FBM 446 Bartending and Beverage Operations Management (3.1); 3 cr. The course deals specifically with the operations and administration of beverage businesses. Students acquire valuable practical knowledge in planning, mixology, cost control, loss prevention, creative merchandising and alcohol liability. The course is highly application oriented. Laboratory fee. *Corequisite:* FBM 444.

HSM 447 Advanced Hospitality and Tourism Marketing (3.0) 3 cr. This elective course builds on the student's previous exposure to the principles and practices of marketing. The key feature is the comprehensive and in-depth coverage of global market analysis for business opportunities and sustainable competitive advantage. A strong emphasis is placed upon the development of a greater appreciation of consumer behavior and competition analysis, selling and communication strategies and management as well as business negotiations. The course is heavily case oriented. *Prerequisite:* TTM 237.

HSM 449 Meetings, Conventions, Exhibitions and Events Management (3.0); 3 cr. Introduction to the environment and characteristics of the meetings, conventions and exhibitions segments of the hospitality industry. Emphasis is on managerial decisions involved in targeting, planning, organizing, selling and servicing. Applied case analysis and field projects.

HSM 450 Hospitality Project Planning and Facilities Design (3.0) 3 cr. An introduction to project management from concept and feasibility planning to space and architectural design then construction and procurement management. Emphasis is on setting appropriate facilities requirement, layout and detailed design them, the implementation of properties decisions within a balanced design, operations and financial framework.

HSM 451 Hospitality Management (3.0); 3 cr. Analysis of hospitality operating practices and policies and their managerial implications on the individual and group behavior in the organizational setting. The focus is on the acquisition and implementation of leadership styles to enhance organizational effectiveness

and individual well being. The course includes the study of group behavior, attitudes and stress management, communication, motivation, leadership, power politics, conflict and organizational culture. Life case discussions and field projects are included. *Prerequisite:* HSM 314.

TTM 454 Strategic Airline Business Operations (3.0); 3 cr. This course aims at emphasizing the strategic airline business planning through the development of key airline success factors and how to influence them. The student is introduced to Airline economics, bilateral agreements, contemporary issues, product specification and distribution that are necessary to formulate integrated and effective plans.

HSM 459 Hospitality and Tourism Strategic Management (3.0); 3 cr. This capstone course in hospitality and tourism features the integration of business theories and practices into strategic decision making. Focus is on external and internal analysis for business opportunities, organizing for market competitive orientation, quality assurance and sustainable competitive advantage. The course is heavily case-oriented to bring forward realism, and develop critical thinking and decision making ability.

HSM 460 Special Topics in Hospitality (3.0); 3 cr. Selected readings and case studies referring

to current topics and developments within the lodging and food service industries. The purpose is to expose students to recent developments, current challenges and future trends affecting the industry. Studied during the course is the impact of change on hotel and food service management. This is a seminar and case study course.

TTM 462 Special Topics in Travel and Tourism (3.0); 3 cr. An overview and analysis of current developments, trends and challenges in travel and tourism. Studied during the course are the impact and decision challenges faced by management due to macro and micro environmental changes with the resulting shifts of tourism destinations and expectations. This is a seminar and case study course.

FBM 464 Special Topics in Food & Beverages (3.0); 3 cr. This course provides students discussion and problem solving in major and current topics in the F&B field. Topics are announced in the term schedule

HSM 485 Seminar in Hospitality and Tourism Management (3.0); 3 cr. Individual and group studies of a hospitality and tourism business in an area of special interest. It is an in-depth dissection of the managerial functions of the business concern. Findings and decisions are reported and discussed in class. *Corequisite:* HSM 451.

The Degree of Bachelor of Hotel Management and Tourism – Management of Event Production

Overview

Tourism, playing a major role in the economical development worldwide; Lebanon, being the country of services, hospitality and entertainment for the surrounding regions; both created a need for further investments in Artistic production. The professional and accurate Lebanese people who provided events on worldwide scale competing with the most famous channels programs labeled Lebanon with a brand: “The Country of Art and Entertainment”. The need for Business Producers is increasing with the increase in demand for products and with the unemployment rate of labor in this field.

Objective

This program is meant to equip the students with a managerial background for Art. The type of education offered will enhance their capabilities in properly joining the business academics to the art practicum. A diversified undergraduate program educating hard working and motivated students will adapt these latter to the market place where competition in such field will only be fair to the persons who chose such education for a differentiation.

This bachelor degree will be valid for a period of five years enabling our faculty to measure the demand for such major and to assess the market need for an undergraduate program.

Typical Entry-Level Jobs Available

- Event Management
- TV Production Management
- Theater Production Management (musical, play, etc.)
- Exhibition Management
- Assistant event Management
- Assistant TV Production Management
- Assistant Theater Production Management
- Assistant Exhibition Management
- Supervisory for any of the above

Courses Identification System

Courses offered under this degree, will bear the identification mark: EPM followed by a three-digit number (sample EPM 210, EPM 325, EPM 420).

Courses are numbered as follows: Sophomore 200, Junior 300, Senior 400.

All the courses are 3 credits, only internship is 1 credit.

Graduation Requirements

Students seeking the degree of bachelor of Hotel Management And Tourism must complete a total of 103 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the major and concentration requirements. The passing grade for all courses is D except for ENL 213 and ENL 230 whereby it is C.

Admission Requirements

Faculty of Business Administration and Economics (FBAE)

Applicants must:

- Pass the Lebanese Baccalaureate part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education.
- Sit for an English Entrance Exam (EET or TOFEL) and a Mathematics test.

Only those applicants (General Sciences or Life Sciences) who score an overall average of at least 14/20 on the Official Baccalaureate Exam are exempted from the Mathematics Test.

**Degree Requirements
(103 credits)**

General Education Requirements **27 cr.**

Major Requirements **57 cr.**

EPM 201, EPM 202, EPM 203, EPM 205, EPM 206, EPM 211, EPM 207, EPM 215, EPM 301, EPM 302, EPM 303, EPM 311, EPM 321, EPM 323, EPM 330, EPM 332, EPM 401, EPM 402, EPM 403

Minor Concentrations **10cr.**

Theater: EPM 480, EPM 430, EPM 433, EPM 490

Event: EPM 481, EPM 434, EPM 435, EPM 491

Television/Movie: EPM 482, COA 430, EPM 437, EPM 492

Major Electives **6 cr.**

EPM 216, EPM 217, EPM 315, COA 225, EPM 317, EPM 336, EPM 415

**Bachelor of Hotel Management and Tourism – Management of Event Production
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--|-------|
| EPM | 201 | The Management of Accounting in Event Production | 3 cr. |
| EPM | 202 | Marketing in Event Production | 3 cr. |
| APM | 203 | Management of Event Production | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| EPM | 205 | Costume design, make-up and hairdressing Management | 3 cr. |
| EPM | 206 | Management of sound, light and setting | 3 cr. |
| EPM | 207 | Economics in Event Production | 3 cr. |
| EPM | 211 | Law and Arts | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| EPM | 215 | Business Communications | 3 cr. |
| EPM | 303 | Management of Event Production II | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| EPM | 301 | Financial Management | 3 cr. |
| EPM | 302 | Principles of Sales Management for EP | 3 cr. |
| EPM | 321 | Labor Relations | 3 cr. |
| EPM | 323 | Managing the Production Processes | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits.)

| | | | |
|-----|-----|--|-------|
| EPM | 311 | Contracts Law | 3 cr. |
| EPM | 330 | Directing and Acting for Production Managers | 3 cr. |
| EPM | 332 | Planning the Scene Design | 3 cr. |
| EPM | — | Major Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (4 Credits)

| | | | |
|-----|-----|-----------------------|-------|
| EPM | 48_ | Internship Management | 1 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| EPM | 401 | Financial Management of Art | 3 cr. |
| EPM | 402 | Critique in Artistic and Event Production Management | 3 cr. |
| EPM | 403 | Strategic Planning Conceptual Feasibility | 3 cr. |
| EPM | — | Major Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III – Theater (15 Credits)

| | | | |
|-----|-----|---|-------|
| EPM | 430 | Popular Theater and Commercial Aspects | 3 cr. |
| EPM | 433 | Theater Safety | 3 cr. |
| EPM | 490 | The Production Manager’s Senior Project Theater | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III – Event (15 Credits)

| | | | |
|-----|-----|---|-------|
| EPM | 434 | Show Business | 3 cr. |
| EPM | 435 | Control Systems for Live Entertainment | 3 cr. |
| EPM | 491 | The Production Manager’s Senior Project Event | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III – TV/Movie (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| COA | 430 | Management of Acting for Camera | 3 cr. |
|-----|-----|---------------------------------|-------|

| | | | |
|-----|-----|--|-------|
| EPM | 437 | Management of Television and Programs | 3 cr. |
| EPM | 492 | The Production Manager's Senior Project TV/Movie | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Management of Event Production

EPM 201 The Management of Accounting in Event Production (3.0); 3 cr. An introduction to corporate financial accounting concepts and procedures. Financial statements are stressed throughout the course, while attention is paid to developing procedural skills, including accounting controls. The basic financial statements are introduced: balance sheet, income statement, statement of cash flows, and statement of retained earnings. Accounting for assets, liabilities, and owners' equity.

EPM 202 Marketing in Event Production (3.0); 3 cr. The process of Marketing the Artistic Production in social, economic and legal environments. Topics covered include: Artistic Production as a product and service development, pricing strategies, channel of distributions specified for this industry.

EPM 203 Management of Event Production (3.0); 3 cr. An introduction to the basic elements of the managerial process in Artistic Production. Topics covered are: Planning in Artistic production, decision making, organizing, staffing employees (actors, singers, technicians, etc...) related to the type of production, Leading the production, and controlling processes.

EPM 205 Costume design, make-up and hairdressing Management (3.0); 3 cr. A course for designers in the techniques of preparing a scene design for production in a shop. Drafting techniques, sheet layout, conventions, and symbols are stressed. Detailed practical experience in the preparation of costumes for the stage, including sketches for projected designs and plans for their execution.

EPM 206 Management of Sound, Light, and Setting (3.0); 3 cr. An introduction to the aesthetics and the process of scenic design through critique and discussion of weekly projects. This course prepares students for the demanding artistic and practical situations to be faced in the professional background. Large-scale and somewhat complex production problems, such as multiset plays, musical comedies, operas, ballets, events, and repertory situations may be addressed by students for presentation and critique.

EPM 211 Law and the Arts (3.0); 3 cr. An overview on the legal rights and responsibilities of artists and artistic institutions. The course includes topics about: laws of intellectual property, laws related to theater and T.V., moral rights, personality rights (defamation, publicity, and privacy) and freedom of expression. The course also introduces the structure and the language of contractual agreements and includes discussions of several types of contracts employed in the theater, show and TV. Other legal issues relating to nonprofit arts organizations may also be discussed.

EPM 207 Economics in Event Production (3.0); 3 cr. This course applies economic principles to the Artistic production industry. Special emphasis is placed on supply and demand and the determination of prices. It also discusses the impact of the GDP, growth and fluctuations on the Artistic Production industry. The course further focuses on the contribution of Artistic Production to the overall performance of the economy. Topics include: Money and banking; unemployment and inflation; national income determination; fiscal and monetary policy related to Artistic Production Industry.

EPM 215 Business Communication (3.0); 3 cr. Through a series of exercises in written and oral communication, the course seeks to enhance students' ability to express themselves clearly and effectively. It provides students with the practical technical skills required for professional business communication.

EPM 216 Music and Sound for the Theater (3.0); 3 cr. This applied course provides a laboratory for conceiving and realizing music and sound for the theater. A primary objective is the development of a strong and dynamic relationship between the director, sound designer, and/or composer. Through a series of projects based on scripts and themes, participants explore the vast potential of designed sound while building an aural vocabulary and a critical ear.

EPM 217 British, American, and Modern Event Production Management (3.0); 3cr. An overview of organizational practice in the British, American, and modern professional

Artistic Production. Starting from historic precedent, the course surveys the commercial production and the nonprofit production as organizational models. Topics include limited partnerships, nonprofit corporate structure, staff organization, and budgeting.

EPM 301 Financial Management (3.0); 3 cr. A study of the broad role of financial management in the realization of organizational goals. Topics include management control, resource allocation, analysis, funds acquisition and management, and elementary investment alternatives. *Prerequisite:* EPM 201.

EPM 302 Principles of Sales Management of Event Production (3.0); 3 cr. This course explores the fundamentals of marketing and public relations in Artistic Production and the interrelation of these two functions. It offers a practical guide to such marketing techniques as planning subscription campaigns, writing advertising copy, managing telemarketing campaigns, and targeting potential audiences. The basic tools of public relations are also covered, including dealing with journalists, writing press releases, pitching feature stories, and managing photo calls. Topics include economics of marketing, consumer behavior, matching of services with demand, efficient distribution, pricing, and effective communications.

EPM 303 Management of Event Production II (3.0); 3 cr. Applications of management techniques and organizational principles to technical production. Emphasis is placed on leadership and interpersonal skills as well as on organization, planning, and facilities utilization. Assignments provide further exploration of related topics in the form of written and/or presented material. *Prerequisite:* APM 203.

EPM 311 Contracts Law (3.0); 3 cr. Intends to teach how to read, write, and administer individual employment contracts. Topics covered include artistic employment contracts, duties of employer and employees; impact of legislation providing for safety, and welfare.

EPM 315 Theater Planning and Characteristics (3.0); 3 cr. This course introduces the process of planning and building a performing arts facility. Emphasis is placed on the planning process as practiced in architecture, with stress on space allocation, budgeting, functional layout, and construction procedures. The course also surveys the standard phases of

architectural planning, bidding and project management, construction, building and fire code requirements, and the effect of architectural design considerations on performing arts facility design.

EPM 317 Planning Sound (3.0); 3 cr. Detailed experience in the preparation of sound, including sketches for projected designs and plans for their execution. This course is meant to enable the student know the use of the needed material in Event, Theater, and TV. *Prerequisite:* EPM206.

EPM 321 Labor Relations(3.0); 3 cr. An investigation of employee relations, with emphasis on the collective bargaining process. Topics discussed include wages and hours, personnel policy, grievances, negotiation of individual contracts, employment discrimination, union negotiations, and contract administration.

EPM 323 Managing the Production Processes (3.0); 3 cr. An investigation of the relationship between the artistic director and the managing director. This course explores the role of a managing director in the production process of regional theater, including season planning, artistic budgeting, contract negotiations, artist relationships, and production partnering.

EPM 330 Directing and Acting for Production Managers (3.0); 3 cr. An examination of the director's process and techniques, this course is intended to explore the relation of script requirements to the development of production style. Areas of focus include an overview of the process, conceptual beginnings, the design process, working with the script, and the acting process throughout rehearsals and performance. *Prerequisites:* EPM 205, EPM 206.

EPM 332 Planning the Scene Design (3.0); 3 cr. An introduction for all non-design students to the aesthetics and the process of scenic design through critique and discussion of weekly projects. Emphasis is given to the examination of the text and the action of the play, the formulation of design ideas, the visual expression of the ideas, and especially the collaboration with directors and all other designers. *Prerequisites:* EPM 205, EPM 206.

EPM 336 Design Studio (3.0); 3 cr. This course introduces different types of studios in Event, Theater, and TV. The student should be able to identify needed equipment and material for the above stated types.

EPM 401 Financial Management of Art (3.0); 3 cr. A study of the broad role of financial management in the realization of organization goals. Topics include management control, resource allocation, analysis, funds acquisition and management, and elementary investment alternatives. A study of the broad role of financial management in the realization of organizational goals. Topics include management control, resource allocation, analysis, funds acquisition and management, and elementary investment alternatives. *Prerequisite:* EPM 301.

EPM 480 Internship Management – Theater (1.0); 1 cr. A supervised on-the-job work experience in the Artistic Production business. Being in theater, The student must arrange the job with the department and approve it with the related institution. Minimum 90 hours. *Prerequisites:* EPM 330, EPM 332.

EPM 481 Internship Management – Event (1.0); 1 cr. A supervised on-the-job work experience in the Artistic Production business. Being in event, The student must arrange the job with the department and approve it with the related institution. Minimum 90 hours. *Prerequisites:* EPM 330, EPM 332.

EPM 482 Internship Management–Television/Movie (1.0); 1 cr. A supervised on-the-job work experience in the Artistic Production business. Being in television, The student must arrange the job with the department and approve it with the related institution. Minimum 90 hours. *Prerequisites:* EPM 330, EPM 332

EPM 402 Critique in Artistic and Event Production Management (3.0); 3 cr. An in depth analysis of several readings, plays, events, films, etc... This course will enable the students reason clearly towards the choice of any Artistic Production, identify and screen any project while allocating properly resources. It provides a workshop in critical writing in which the student's work is analyzed and discussed by the class and the instructor. The class is divided into sections.

EPM 403 Strategic Planning and Conceptual Feasibility (3.0); 3 cr. Strategy is the match between a theater organization's qualifications and the opportunities afforded by a changing environment. It provides a guide to allocating human and financial capital when times are good, and to seeing opportunities for progress

when times are bad. In seven four-hour sessions consisting primarily of case discussions, this course shows how to identify the organization's mission, analyze its internal and external environments, identify its strategy, resolve tensions between mission and strategy, analyze organizational culture, and adapt the culture in order to implement robust strategies. *Prerequisite:* EPM 303.

EPM 415 Planning Scene Design II (3.0); 3 cr. Criticism of design problems for plays, musicals, ballet, and opera. This course continues the work started in EPM 332, carrying it a step further and focusing on design realization. *Prerequisites:* EPM 332.

EPM 430 Popular Theater and Commercial Aspects (3.0); 3 cr. This seminar surveys the business aspects of producing. Relationships examined include those with the author, director, cast, other personnel, the theater owner, unions, and agents. Other topics include financing, touring, and press relations.

EPM 433 Theater Safety (3.0); 3 cr. An introduction to theater safety and occupational health. Topics include chemical and fire hazards, accident and fire prevention, code requirements, emergency procedures, and training and certification in first aid and CPR.

EPM 434 Show Business (3.0); 3 cr. Describes the type of shows the processes used and adapted for each type. It helps the students learn internationally and locally about current and potential events that can be created.

EPM 435 Control Systems for Live Entertainment (3.0); 3 cr. The rapidly developing field of "show control" is the focus of this course. Show control is the convergence of entertainment, computing, networking, and data communication technologies.

EPM 437 Management of Television and Programs (3.0); 3 cr. It enables the student with advanced knowledge about television. An in-depth studies about television departments and probable creation of programs.

EPM 490 The Production Manager's Senior Project Theatre (3.0); 3 cr. Through practice auditions of varied material and visits from Theater industry professionals (working actors, agents, casting agents, and directors), third-year actors acquire the information and skills they need to make the transition into the professional world. In their final term, students choose and

rehearse scenes, which are presented to agents, casting agents, and producers. *Co-requisite:* EPM 330, EPM 403.

EPM 491 The Production Manager's Senior Project Event (3.0); 3 cr. Through practice auditions of varied material and visits from Event industry professionals (working actors, agents, casting agents, and directors), third-year actors acquire the information and skills they need to make the transition into the professional world. In their final term, students choose and rehearse events, which are presented to agents,

casting agents, and producers. *Co-requisite:* EPM 330, EPM 403.

EPM 492 The Production Manager's Senior Project TV/Movie (3.0); 3 cr. Through practice auditions of varied material and visits from Television industry professionals (working actors, agents, casting agents, and directors), third-year actors acquire the information and skills they need to make the transition into the professional world. In their final term, students choose and rehearse scenes, which are presented to agents, casting agents, and producers. *Co-requisite:* EPM 330, EPM 403.

GRADUATE PROGRAMS

Director: Dr. Rock-Antoine Mehanna

The Degree of Master of Business Administration (MBA)

The Graduate Program

The graduate program consists of four parts:

I. Preparatory Courses

Applicants to a graduate degree program who do not have a BBA or its equivalent will be required to take some preparatory courses. These courses provide a management base upon which students can build the courses required for a graduate degree.

These courses are in addition to the MBA degree requirements. The grades of these courses are not included in the GPA. MBA candidates should score an overall average of “B” in these courses. Only upon successful completion of these courses candidates join the regular MBA program.

The preparatory courses are:

| | | | |
|------------------|-----|--|-------|
| ACO | 500 | Fundamentals of Financial Accounting | 3 cr. |
| BAD | 500 | Fundamentals of Management | 3 cr. |
| BAF | 500 | Fundamentals of Financial Management | 3 cr. |
| ECN | 500 | Fundamentals of Micro and Macro Economics | 3 cr. |
| ¹ HTM | 500 | Fundamentals of Hospitality Management and Tourism | 3 cr. |
| STA | 500 | Applied Statistics for Business and Economics | 3 cr. |

These or some of these courses may be waived upon the recommendation of the Faculty Graduate Committee based upon the undergraduate degree or work experience of the student. They could also be waived based on proficiency tests.

II. Required Common Core Courses (18 cr.)

All candidates for the graduate degree, irrespective of their area of concentration, must complete the following six common core courses. These courses develop an understanding of the modern business organizations and their functioning, and build a strong foundation in principles, theories of business, upon which students can build a variety of specializations within the degree program.

The required common courses are:

| | | | |
|-----|-----|--|-------|
| ACO | 603 | Financial and Managerial Accounting | 3 cr. |
| BAD | 601 | Contemporary Management | 3 cr. |
| BAF | 601 | Financial Management | 3 cr. |
| ECN | 601 | Microeconomic and Macroeconomic Theory I | 3 cr. |
| MRK | 601 | Marketing Strategy | 3 cr. |
| RMC | 605 | Research Methodology | 3 cr. |

These core courses are thought not as separate, independent disciplines but as integrated, coordinated basic set of tools for managerial decision making, and they can be applied in a broad range of professional settings in the private and the public sectors.

III. Concentration Requirements (12 cr.)

After completing the core courses, degree candidates build further skills and depth of knowledge in their choice of concentration in one particular area of business. See below the curriculum of each area of concentration.

¹ Required only of candidates who choose the MBA-Hotel Management and Tourism program.

IV. Faculty Electives (3-6 cr.)

Graduate students have the opportunity to choose three credits (in case they choose the thesis option) or six credits (in case they choose the research project option) offered by the Faculty to either diversify their background, or widen their area of concentration.

V. Research (3-6 cr.)

After completing 30 graduate credits, students have to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, or work on a research project (3 cr.).

The Curriculum of MBA- Economics Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.

ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.

ECN 603, ECN 607, ECN 609, ECN 615.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 617, ECN 605, ECN 611, ECN 619, ECN 629, ECN 631, ECN 635, ECN 639.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 617, ECN 605, ECN 611, ECN 619, ECN 629, ECN 631, ECN 635, ECN 639.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Finance Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.

ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.

BAF 603, BAF 605, BAF 619, BAF 625.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 639, BAF 607, BAF 609, BAF 613, BAF 615, BAF 617, BAF 621, ECN 615.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 639, BAF 607, BAF 609, BAF 613, BAF 615, BAF 617, BAF 621, ECN 615.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Project and Operations Management Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.
ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.
PRM 601, PRM 603, PRM 605, BAF 607.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 639, BAF 609, BAF 613, BAF 615, BAF 617, BAF 621, ECN 615, ECN 639.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 639, BAF 609, BAF 613, BAF 615, BAF 617, BAF 621, ECN 615, ECN 639.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Management and Strategy Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.
ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.
BAD 603, BAD 611, BAD 631, BAD 645.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 605, BAD 609, BAD 615, BAD 617, BAD 621, BAD 639, MRK 613, PRM 601.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 605, BAD 609, BAD 615, BAD 617, BAD 621, BAD 639, MRK 613, PRM 601.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Human Resources Management Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.
ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.
BAD 623, BAD 625, BAD 630, BAD 642.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 605, BAD 609, BAD 621, BAD 631, BAD 634.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 605, BAD 609, BAD 621, BAD 631, BAD 634.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Marketing Concentration

Degree Requirements (39 credits)

Required Common Core Courses 18 cr.
ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605.

Concentration Requirements 12 cr.
BAD 627, MRK 603, MRK 611, MRK 621.

Faculty Electives 3-6 cr.

Option I: Thesis Option

ONE course to be chosen from the following: BAD 605, BAD 609, BAD 621, MRK 605, MRK 613, MRK 615, MRK 619.

Option II: Research Project Option:

TWO courses to be chosen from the following: BAD 605, BAD 609, BAD 621, MRK 605, MRK 613, MRK 615, MRK 619.

Research 3-6 cr.

Option I: Thesis Option BAD 690 (6 cr.)

Option II: Research Project Option: BAD 680 (3 cr.)

The Curriculum of MBA- Hospitality Management Concentration

Degree Requirements (39 credits)

| | |
|---|----------------|
| Required Common Core Courses ACO 603, BAD 601, BAF 601, ECN 601, MRK 601, RMC 605. | 18 cr. |
| Concentration Requirements BAD 623, HTM 605, HTM 607, HTM 609 | 12 cr. |
| Faculty Electives <i>Option I:</i> Thesis Option ONE course to be chosen from the following: HTM 613, HTM 629, HTM 637, HTM 640, HTM 650, HTM 654, BAD 605, BAD 609, BAD 621. <i>Option II:</i> Research Project Option: TWO courses to be chosen from the following: HTM 613, HTM 629, HTM 637, HTM 640, HTM 650, HTM 654, BAD 605, BAD 609, BAD 621. | 3-6 cr. |
| Research <i>Option I:</i> Thesis Option BAD 690 (6 cr.) <i>Option II:</i> Research Project Option: BAD 680 (3 cr.) | 3-6 cr. |

Preparatory Courses: For Non-Business Undergraduate Degree Holders

ACO 500 Fundamentals of Financial Accounting (3.0); 3 cr. Focuses on the basic financial accounting principles and more advanced procedures of accounting for sole proprietorships, partnerships and corporations. Explanation of the techniques of measuring, classifying, summarizing, reporting and interpreting financial information. Accounting software is used.

BAD 500 Fundamentals of Management (3.0); 3 cr. An introduction to the basic principles and theories of management. It covers management objectives, organizational structures, material and human resource utilization, decision making, planning, and organizing.

BAF 500 Fundamentals of Financial Management (3.0); 3 cr. A condensed version of financial management including the role of the financial manager and the techniques for obtaining and using funds to maximize the value of the firm. Topics covered include: discounted CF analysis, valuation methods, risk and return, financial analysis, financial planning and control, working capital management, cost of capital, capital structure, common stock and long term debt financing, and credit management.

ECN 500 Fundamentals of Micro and Macro Economics (3.0); 3 cr. Covers the basic principles, theories, and policies in both Micro and Macro Economics. At the Micro level, it covers demand and supply analysis, consumer's theory, production costs, and market structure. At the Macro level it covers national income and output determination, money and banking, unemployment and inflation, and fiscal and monetary policies

HTM 500 Fundamentals of Hospitality Management and Tourism (3.0); 3 cr. An examination of hospitality operations and the areas of critical importance to the tourism industry. Required only of students with no academic background in hospitality and tourism management.

STA 500 Applied Statistics for Business and Economics (3.0); 3 cr. The course covers the following main topics: Introduction to statistics and probability, discrete and continuous random variables, sampling distribution, hypothesis testing and estimations, analysis of variance, simple and multiple regression, and time-series analysis. The course also applies these concepts and techniques to actual real world business and economic situations.

Graduate Courses: Accounting

ACO 603 Financial and Managerial Accounting (3.0); 3 cr. The course reviews the accounting system used to prepare financial statements of companies and groups in a national and international environment. It

analyzes the business transactions, deals with financial recording and accounting procedures, contributes to the measuring of product and activity segment performance, and provides managers with decision analysis tools.

Graduate Courses: Economics

ECN 601 Microeconomic and Macroeconomic Theory I (3.0); 3 cr. This course focuses on the fundamental foundations of microeconomic and macroeconomic theories. Topics covered include: theory of choice; elasticity; utility theory; production and cost theories; production and pricing under different market structures; factor markets; determination of national income; economic growth models; money and central banking; fiscal and monetary policies and economic activity; inflation and unemployment.

ECN 603 Microeconomic and Macroeconomic Theory II (3.0); 3 cr. This course investigates more thoroughly and more rigorously the topics covered in ECN 601. Additional topics will

cover: intertemporal choice; decision making under uncertainty; general equilibrium analysis; New Classical, New Keynesian and Real Business Cycle models of macroeconomy; open economy macroeconomics. *Prerequisite:* ECN 601.

ECN 605 Monetary Economics (3.0); 3 cr. The course examines the theoretical and practical aspects of money's role in the economy. Topics covered include: definitions of money; demand and supply of money; the transmission mechanism of monetary policy; central banking and money supply control; the theory of monetary policy; money, inflation, and

unemployment; Keynesian-Monetarist-Neoclassical debate. *Prerequisite:* ECN 601.

ECN 607 Public Finance and Fiscal Policy (3.0); 3 cr. This course analyzes the role of the public sector in the economy. The aim is to understand the reasons for government interventions and the extent of intervention, and the response of individuals and firms to government intervention. Topics covered include: different views about government role, market failures, externalities, public goods, voting, the efficiency and equity consequences of welfare policies and programs, the efficiency and equality consequences of different tax systems and deficit financing. *Prerequisite:* ECN 601.

ECN 609 Econometrics (3.0); 3 cr. This course represents an introduction to the basic tools of econometrics. It offers a combination of econometric theory and hands-on practical training for graduate courses. The aim of this course is to provide realistic applications through numerous real-world examples of model specification, estimation, and hypothesis testing. The course includes background information on mathematics, probability, statistics, and software applications. Moreover, this course will present a balanced treatment of both microeconomic analysis (cross-sectional) and macroeconomic analysis (time-series). *Prerequisites:* ECN 601 and RMC 605.

ECN 611 Economics and Politics (3.0); 3 cr. The course explores the most important frameworks for understanding the relation between politics and economics. It studies for example how the timing of elections, the ideological orientation of governments, and competition among political parties influence unemployment, economic growth, inflation, and various monetary and fiscal policy instruments. *Prerequisite:* ECN 601.

ECN 615 International Economics (3.0); 3 cr. The course is designed to apply international trade theory in order to provide an understanding of the principles governing the design, formulation, and implementation of trade policies, and the international financial aspects of foreign trade. Topics covered include: survey of international trade theories; foreign direct investment; regional trading agreements; instruments of trade policy; trade regulations and industrial policies; balance of payments; foreign exchange rate systems; foreign exchange forwards, futures and options; balance of

payments adjustment; open economy macroeconomics; the international financial system. *Prerequisite:* ECN 601.

ECN 619 E- Commerce Economics (3.0); 3 cr. The purpose of this course is to apply the basic principles of economics to the area of electronic commerce and to study the impact of the economic commerce revolution on the economy. Topics covered include: Foundations of electronic commerce; business strategies and conduct in electronic marketplace; internet marketing and advertising; intellectual property rights and the internet; online financial markets; economics of online banking; digital cash and electronic payments; regulatory issues in electronic markets; electronic marketplace and aggregate economic activity; electronic commerce and the world trading system. *Prerequisite:* ECN 601.

ECN 629 Economic Development (3.0); 3 cr. The purpose of this course is to survey the socio-economic problems of the developing countries with a special focus on ME countries and to sharpen the student's analytical skills in analyzing these problems and finding solutions. The course will be covering theories of underdevelopment and development, structural diversity and common characteristics of developing countries, strategies of economic development and the financing of economic development. *Prerequisite:* ECN 601.

ECN 631 Environmental and Natural Resource Economics (3.0); 3 cr. This course is an introduction to the natural resources, environmental economics, and sustainable development. Topics covered include: introduction to resources and environmental economics; ethical foundations of environmental economics; economic concepts and analysis for examining natural resource use; the valuation of environmental resources; the sustainable development; depletable, recyclable, non-recyclable, replenishable, storable, renewable and reproducible resources; the efficient and optimal use of environmental resources; the economics of pollution and pollution control policy; international and global environmental pollution problems; global warming; oil economics. *Prerequisite:* ECN 601.

ECN 635 Behavioral Economics (3.0); 3 cr. The course integrates psychological and economic analysis of behavior. Psychological topics include social preferences, impulsivity, bounded rationality, loss aversion, over-

confidence, etc. It discusses how psychological experiments have been used to learn about preferences, cognition, behavior, etc. Economic topics include arbitrage, equilibrium, rational choice, game theory, etc. It integrates these psychological and economic concepts to understand behavioral phenomena, such as portfolio choice, credit-card borrowing, retirement saving, auction bidding, etc.

Prerequisite: ECN 601.

ECN 639 Labor Economics (3.0); 3 cr. The course studies the labor market, collective bargaining and union impacts. Topics covered include: demand for and supply of labor; wage determination; labor force participation rates; investment in human capital; labor unions and collective bargaining; economic impacts of unions; labor legislation; labor market discrimination; wage structure; wage theories; labor productivity; inflation and unemployment.

Prerequisite: ECN 601.

Graduate Courses: Finance

BAF 601 Financial Management (3.0); 3 cr. This course provides a comprehensive and contemporary coverage of the financial management, focusing on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, this course covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory. *Prerequisite:* ACO 603.

BAF 603 Investment and Portfolio Analysis (3.0); 3 cr. The course covers the functioning of the credit markets in both the advanced and the developing economies (emerging markets). It evaluates the role of credit markets in financing economic development both at the project level (micro) and the level of a whole sector or the over-all economy (macro). In addition the course focuses on the analysis of marketable securities, other types of investments, evaluation, trading systems. Case studies will be widely used. *Prerequisite:* BAF 601.

BAF 605 Commercial Bank Financial Management (3.0); 3 cr. The objective of this course is equip students with principles and tools which allow them to understand sources and uses of bank funds and the risk of banking, to manipulate economic models of bank performance and valuation, to properly operate the bank's Asset-Liability Management and interest rate risk, to be familiar with the traditional approach to business lending and with modern methods for analyzing and managing credit, to perform the liquidity risk and liquidity management, and to go into the operational risk, securitization, and derivatives in greater depth. *Prerequisite:* BAF 601.

BAF 607 Investment Valuation (3.0); 3 cr. Valuation is at the heart of every investment decision, whether that decision is to buy, sell, or hold. But the pricing of any financial asset has

become a more complex task in modern financial markets. Investment Valuation provides expert instruction on how to value any type of asset-stocks, bonds, options, futures, real assets, and much more. The use of real-world examples and the most current valuation tools will be done through the theory and application of valuation models. *Prerequisite:* BAF 601.

BAF 609 Entrepreneurial Finance (3.0); 3 cr. This course covers the process of starting a business, raising capital, managing the finances of the business throughout its growth, and ultimately cashing out of the business. It also includes the process on purchasing a business via a leveraged buyout. The course is very practical but rigorous to fit middle market and emerging business firms. It gives students real-world experiences and approaches rather than theories. Entrepreneurial Finance delivers real-world advice and insightful information sought by those who want to start their own businesses. *Prerequisite:* BAF 601.

BAF 613 Short Term Financial Management (3.0); 3 cr. This course includes broader and integrated coverage of treasury and working capital management, while using valuation and the cash flow timeline as integrating themes. Up to date presentations of developments in treasury management, banking deregulation, globalization of financial services delivery, electronic commerce, international cash management, and foreign exchange risk, will be covered in this course. *Prerequisite:* BAF 601.

BAF 615 Financial Engineering (3.0); 3 cr. The objective of this course is to present the numerous tools and the different techniques enabling a company or a shareholder to conserve or to acquire the control of a company while minimizing Financial contribution in terms of equity. Main subjects to be covered: leverage (legal leverage, earn-out, financial leverage,

financial set-up with leverage effect, Leverage Build-Up LBO, Leverage Buy-out, etc.), consolidation and acquisition strategies (MBI, MBO, etc), operations concerned with financial engineering (Take Over Bid TOB, Share Exchange Offer SEO, acquisitions, mergers, etc). *Prerequisite:* BAF 601.

BAF 617 Investment Banking (3.0); 3 cr. The course focuses on the theory and practice of investment banking. Topics covered include corporate restructuring, evaluation of the cost-benefit of mergers, underwriting, packaged syndicated loans, and other forms of financing corporate deals emphasized. *Prerequisite:* BAF 601.

BAF 619 Corporate Financial Analysis in a Global Environment (3.0); 3 cr. Corporate Financial Analysis in a Global Environment emphasizes the financial concepts and tools essential for understanding the financial impacts of business decisions. Current examples of actual business situations will be applied to demonstrate how financial tools, concepts, and theories can be used by managers to improve decision-making and enhance business performance. The course includes a discussion

of international financial statements and the financial impacts of changes in foreign exchange rates. *Prerequisite:* BAF 601.

BAF 621 Capital Budgeting (3.0); 3 cr. This course explores all areas of capital budgeting and all the strategies used to make long-term financing decisions. Utilizing a strategic framework, it discusses how the key concepts synchronize with overall corporate strategies and goals. Most important topics to be covered: Alternate measures of capital investment desirability, measuring incremental cash flows, single investment risk analysis, Arbitrage Pricing Theory, Option Pricing Theory, lease analysis, capital rationing, etc. *Prerequisite:* BAF 601.

BAF 625 Derivatives (3.0); 3 cr. This course focuses on options and/ or futures, derivatives, and/ or risk management at an advanced level. It presents a detailed but flexible coverage of options, futures, forwards, swaps, and risk management – as well as a solid introduction to pricing, trading, and strategy – and offers an outstanding blend of institution material, theory, and practical applications. *Prerequisite:* BAF 601.

Graduate Courses: Hospitality Management

HTM 605 Legal and Ethical Aspects in Hospitality and Tourism (3.0); 3 cr. An advanced study of the local and international legislation and directives as they apply to the hospitality and tourism industry. Special emphasis on the application of contemporary law and ethics in employee, guest, vendor and environment relations. Contract negotiation, specification and interpretation are also reviewed. Cases of legal risks in tourism are examined.

HTM 607 Cost Control in Hospitality Operations (3.0); 3 cr. In-depth analysis of different methods of cost control strategy and operations, including information systems and computerized cost control. Focusing on issues that affect a manager's decisions using real-world cases in order to provide solutions to cost control problems and improve performance in hospitality operations. *Prerequisite:* ACO 603.

HTM 609 Competitive Strategic Management for Hospitality and Tourism (3.0); 3 cr. An integrative course designed to develop strategic thinking, planning and implementation for competitive advantage. Focus is on change

management in the global dynamic corporate environment. *Prerequisites:* ECN 601, MRK 601, HTM 607

HTM 613 Creating and Managing for Service Excellence (3.0); 3 cr. Advance usage of marketing concepts and techniques to create, operate and evaluate service systems for hospitality/ tourism enterprises. Emphasis on managing the design, communication and delivery of differentiating quality service.

HTM 629 Advanced Food and Beverage Management (3.0); 3 cr. Advanced operational and managerial skills needed to be successful in food & beverage operations. Emphasis on market-based analysis, concept development, menu planning, operations and catering management, customer service processes, and analysis of food and beverage current issues.

HTM 637 Productivity and Quality Performance in Hospitality Management (3.0); 3 cr. Holistic implementation of contemporary management principles and leadership styles in the hospitality industry. Emphasis on continuous service improvement, human resource involvement and customer

satisfaction through the use of total quality management. Current issues, workplace diversity, organizational change and global citizenship are examined and challenged.

HTM 640 Hospitality Asset Management (3.0); 3 cr. Managing the hospitality investment portfolios to meet the specific objectives of shareholders in order to maximize return on investment and build strategies for value creation through optimization of asset management. Topics include analyses and negotiation of management contracts, benchmarking property performance, capital improvement decisions, and financial projections and valuations. *Prerequisite:* BAF 601.

HTM 650 Hospitality Strategies and Operational Simulation (3.0); 3 cr. An extensive problem-solving course integrating all aspects of hospitality operations management handling internal and external challenges and changes. Group workshop style of instruction throughout. *Corequisite:* HTM 609.

HTM 654 Problems and Critical Issues in Hospitality Operations (3.0); 3 cr. Analysis of special recurring problems and issues confronting the hospitality and tourism industry. Extensive use of critical thinking skills, synthesis of information, impact assessment and decision making skills to solve operational dilemmas. *Prerequisite:* HTM 607.

Graduate Courses: Management and Strategy

BAD 601 Contemporary Management (3.0); 3 cr. The complexity of management as a field of study is reflected in the range of approaches taken to its presentation in this course students will learn how to relate traditional management concepts to contemporary management challenges on issues such as people, governance, total quality, social responsibility, and the global business environment.

BAD 603 Management of Organizations (3.0); 3 cr. This course prepares students to manage organizations and to develop their leadership and management skills. It helps students to better read the business environment, handle a variety of critical situations, understand the behavioral nature of management and explore the means by which managers can achieve successful results in organizations.

BAD 605 Intercultural Management (3.0); 3 cr. The course enables students to better understand the national and international specificity of organizations. It compares and analyzes organizations worldwide from managerial, sociological and ethnological standpoints as open systems interacting with economic and institutional environments.

BAD 609 Managing Information Technology (3.0); 3 cr. The course explores the competitive and strategic uses of information technology (IT) in modern business organizations. Topics covered include management in the information age, IT's strategic business role, the need for planning and developing an IT strategy, modern telecommunications system, and controlling information resources.

BAD 611 Entrepreneurship I (3.0); 3 cr. This course will be an overview of entrepreneurship, with emphasis on the role of entrepreneurs, finding products/ services suitable for new ventures, financing new ventures, and preparing business plans. Case studies will be discussed. Each student will prepare an abbreviated business plan for a venture developed by the student. The projects will be flexible enough to accommodate students with special interests. Ideally, projects will have the potential of becoming significant businesses. There will be several guest entrepreneurs and some cases illustrating new business creation in Lebanon and the Middle East.

BAD 615 Entrepreneurship II (3.0); 3 cr. This course will focus in further depth on developing a plan for a new business. Class work will consist of additional topics related to entrepreneurship, including legal, accounting, managerial, and financial aspects of starting new companies. Some cases and guest lectures will be included. The principal project will be a group assignment of up to four students to develop a complete business plan for a new venture normally taken from those developed in the Entrepreneurship I course.

BAD 617 Corporate Governance (3.0); 3 cr. Corporate governance has become an important issue because of its vital role in the well being of a company as a whole. Market globalization widens the possibilities of financing companies but creates new constraints to satisfy requirements of transparency, efficiency, profitability, and risk minimization for investors.

BAD 621 Personality Theory (3.0); 3 cr. The course develops in students the knowledge of the main psychological theories of personality and individual behavior and presents the main schools of thought in personality and behavioral analysis. It deals also with personal development in professional life and with the techniques of personal development.

BAD 623 Strategic Human Resources Development (3.0); 3 cr. Strategic Human Resources Development, needs to be seen as part of the strategic management process of a given organization, since the organization is dependent on effectively utilizing and enhancing all of its sources to cope with current and future contingencies. It is about human resources development strategies which can contribute to the over all direction of organization.

BAD 625 Aligning Human Resources and Business Strategy (3.0); 3 cr. As a company's strategies change, the type of management competencies and styles need to change as well, and human resources development is responsible for this alignment. This course will help the student to identify and evaluate current and emergent themes which professionals in the human resources development field need to know in order to increase their strategic awareness and effectiveness.

BAD 627 E-Marketing and Business Models (3.0); 3 cr. The course explores the latest applications in electronic trading and the necessary infrastructure needed to make e-business possible and efficient. It deals also with the concepts and tools that marketing managers have to master in order to design and implement their company's e-marketing strategies.

BAD 630 Organization Theory and Design (3.0); 3 cr. The course studies the crucial issue of leadership in large and small businesses, in local and international setting, and evaluates the different theoretical models on management leadership. It also applies the models to specific cases and eminent individuals that symbolize leadership in business and other settings.

BAD 631 Strategic Management (3.0); 3 cr. The course integrates the relevant dynamic components of all the functional areas of management. Emphasis is put on strategy formulation and implementation. Decision simulation models for strategic global planning are analyzed and applied.

BAD 634 Labor-Management Relations (3.0); 3 cr. The course discusses the relationships between unions, workers, management and government. Topics covered include collective bargaining, labor disputes resolution, strikes, arbitration, wages, employment security and labor legislation.

BAD 639 Financial Criminal Law (3.0); 3 cr. The purpose of this course is to identify all kind of penal risks such as: money laundering, hunch backed, fraudulent bankruptcy, forgery, breach of trust, checks without provision, fraud, etc. Moreover, this course will provide students with real-life cases.

BAD 642 Management Leadership (3.0); 3 cr. The course is an in-depth examination of the nature of contemporary complex organizations. Topics covered include organizational goals, environment, technology, change, information, power, conflicts, structures and personal satisfaction.

BAD 645 Operations Management (3.0); 3 cr. The course covers topics such as operations strategy, product and process designs, the choice of appropriate technology, quality control, scheduling, supply chain management, JIT systems, etc...

BAD 680 Research Project 3 cr. The purpose of this course is the application of research methodology and is related to the required research project to be completed by each MBA student after the accomplishment of his/her 30 credits.

BAD 690 Thesis 6 cr. Research on a significant problem in business administration selected by the candidate from a concentration area or from other topics of the MBA program.

Graduate Courses: Marketing

MRK 601 Marketing Strategy (3.0); 3 cr. This course examines the business environment and the strategic marketing decisions faced by the top management. It presents the key concepts of marketing strategy, strategic decision-making, and develops a business strategy in a field

project. Examples of different types of organizations are utilized, with emphasis on finding solutions to real world business problems.

MRK 603 Product Development and Management (3.0); 3 cr. The course explores

each step in the strategy, opportunity identification, design, testing, launching, and management stages of a new product. Topics include perpetual mapping, estimating potential sales, quality control and customer services. Students are expected to create complete programs for new products.

MRK 605 Interactive Marketing (3.0); 3 cr. The media tools, the Internet and interactive television are dramatically changing marketing practices and consumer relations to the firm. The course introduces students to the key concepts of this new marketing medium as well as to promoting a brand over the Internet, and the emergence of new services on interactive media.

MRK 611 Marketing Research (3.0); 3 cr. The course makes use of both quantitative and qualitative research methods for obtaining and analyzing data for marketing decisions. Topics include the marketing research process, research design procedure and choices, techniques of primary and secondary data collection, analytical methods such as regression analysis, multidimensional scaling and conjoint, cluster, factor, discriminate and logic analyses. An appropriate software is used in the course.

MRK 613 Brand Management (3.0); 3 cr. This course deals with brands, why they are important, what they represent to consumer, and what should be done by firms to manage them properly. The course materials will provide the

student with insight into how profitable brand strategies can be created by building, measuring, and managing the most valuable intangible assets "Brand".

MRK 615 Consumer Behavior and Rights (3.0); 3 cr. This course examines the many forms of consumer behavior, the principles explaining why consumers behave the way they do, the implications for marketing and advertising, and the methodologies and research techniques used for studying consumer behavior. It focuses on the main rights of the consumer and the different means to protect them.

MRK 619 Customer Relationship Management (3.0); 3 cr. Customer relationship management is at the core of consumer and business-to-business markets. The concept of (CRM) is based on the simple idea of treating different customers differently, it can be applied to all industries and in numerous business settings. The commonly held view is that business success hinges on creating long-term, profitable, customer relationship.

MRK 621 Sales Force and Sales Promotion (3.0); 3cr. The course shows how to enhance selling effectiveness, sales organization, and sales management decision problems. It presents the different stages of behavioral communication policy, and the techniques for measuring promotional results.

Graduate Courses: Project and Operations Management

PRM 601 Project and Operations Management (3.0); 3 cr. This course covers tools and keys used to project success. The system development life cycle will be drawn and deeply analyzed. Major topics to be treated: concept of a project, analysis & design, development, transition to development, scope, time estimation and management, cost estimation, cost tracking, and procurement management, reducing risk, defining and delivering quality, teamwork, integration, etc. *Prerequisite:* BAF 601.

PRM 603 Project Planning and Control (3.0); 3 cr. This course teaches students how to create a business plan. Many real-life examples and exercises demonstrating in detail the process of writing a business plan are provided in this course. Examples will be drawn from product type companies, service companies and retailers,

covering the majority of issues that are unique to each of these industries. The course also discusses the techniques of controlling the project. *Prerequisite:* BAF 601.

PRM 605 IT Tool for Project Management (3.0); 3 cr. This course focuses on systems issues. The primary focus is to examine the many issues facing MIS project managers. It incorporates the Project Management Institutes Body of Knowledge (PMBOK). Traditional project management topics will be covered such as project adoption, planning, scheduling, and implementation while encouraging students to view the projects holistically and analytically. Utilizing the most current software and project management tools, the course provides students with the most effective strategies for today's IT project managers.

Graduate Courses: Research Methodology

RMC 605 Research Methodology (3.0); 3 cr.

This course develops an intensive and advanced study of the objectives and methodologies of research for business decisions and how to design and report experiments. Topics covered include Techniques for defining problems; Research Design; Research proposal; how to

write a research; Fundamental of data Manipulation: Analysis and Interpretation using the statistical package “SPSS”; Multiple Regression; ANOVA; MANOVA; Principal Components Analysis; Factor Analysis and Canonical Correlation.

The Degree of Master of Business Administration and Master of Science In International Business

MBA – MIB Program

The MBA-MIB is an Executive Program, specializing in International Business, taught entirely in English. It is composed of an 11-month period of formal teaching in class at NDU (four evenings between 5:30 and 9:30 pm weekly and, occasionally on Saturday mornings).

Common courses are divided into 9 Teaching Units:

- International Environment
- Corporate Strategy and Management
- Commerce/Marketing/Negotiation
- Production, Operations & Logistics
- Business Law
- Accounting & Information Technologies
- Corporate Finance
- Human Resources & Communication
- Industrial Goods
- Multi-Disciplinary Case Study, under the supervision of a team of Consultants and Academics.

There is a formal presentation of Memoirs, which may be held in Beirut, Bordeaux or Paris.

Summer Program

It is highly recommended to applicants having no – or little – background in economics, business or management, to attend the Summer Program, covering the basics in Accounting, Marketing, Macro- and Micro Economics, as well as Organization Theory.

MBA-MIB Program

Winter Semester I (304 hours)

1. International Environment I (74 hours)
 - United States and Europe: Cultural Differences 10 hrs
 - The West, and the Arab and Muslim World 10 hrs
 - China and Asia Culture & Economics Development 10 hrs
 - The Arab World as an Economic Entity 4 hrs
 - World Prospects and Issues 6 hrs
 - Economic Analysis: Prices and Markets 6 hrs
 - International Trade and Public Policies 10 hrs
 - Monetary Systems and Capital Markets 6 hrs
 - New Challenges and Stakes in International Trade 12 hrs
2. Corporate Strategy / Management I (16 hours)
 - Introduction to Strategy 6 hrs
 - Intercultural Business & Management I 10 hrs
3. Commerce / Marketing/Negotiation I (52 hours)
 - Commercial Negotiation: Principles 16 hrs
 - International Marketing 24 hrs
 - E-Marketing Strategy 12 hrs
4. Corporate Finance I (34 hours)
 - International Corporate Finance I 16 hrs
 - Funding International Trade & Investment Operations 16 hrs
5. Business Law I (14 hours)
 - Industrial and Intellectual Property Rights 14 hrs
6. Production / Operations / Logistics I (28 hours)
 - Operation Management 16hrs
 - International Logistics 12 hrs
7. Human Resources and Communication I (46 hours)
 - International Human Resources Management 20hrs
 - Business Communication 8 hrs
 - Outdoor Activities on International Business Issues I 4 hrs
 - Integration Seminar & Personal Development 14 hrs
8. Accounting IT Languages I (28 hours)
 - Financial Accounting 6 hrs
 - Information Technology 12 hrs
 - Research & Case Methodology 10 hrs
9. Industrial Goods and Services I (0 hours)
10. Cross-Disciplinary Cases (10 hours)
 - Supervision of multidisciplinary case studies by Consultants 10 hrs

Please note that same Modules may spread over 2 Semesters, hence semester hour totals may not exactly amount to 304.

Spring Semester II (264 hours)

1. International Environment II (30 hours)
 - China, Japan & the Arab Moslem World 6 hrs
 - India and South Asia, Culture and Geopolitics 10 hrs
 - Geo-economy and Competitive Intelligence 14 hrs
2. Corporate Strategy / Management (86 hours)
 - International Corporate Strategy 18 hrs
 - Strategic Risks Management 16 hrs
 - Intercultural Business & Management II 10 hrs
 - Business Game 4 hrs
 - Business Ethics 12 hrs
 - E-Business and Management 10 hrs
 - Mergers, Acquisitions & Strategic Alliances 16 hrs
3. Commerce / Marketing / Negotiation II (30 hours)
 - International Marketing Effective Major Account Management 16 hrs
 - International Commercial Negotiation: Anglo-Saxon Countries 14 hrs
4. Corporate Finance II (34 hours)
 - International Corporate Finance II 20 hrs
 - Financial Instruments & Risks Management 14 hrs
5. Business Law II (14 hours)
 - International Business Transactions 14 hrs
6. Production / Operations / Logistics II (0 hours)
7. Human Resources and Communication II
 - Integration Seminar & Personal Development 8 hrs
 - Outdoor Activities on International Business Issues II 8 hrs
8. Accounting/IT Languages II (0 hours)
9. Industrial Goods and Services II (44 hrs)
 - International Strategy of Industrial Firms & Services 6 hrs
 - International Industrial Marketing 6 hrs
 - Negotiation of International Industrial Contracts 4 hrs
 - International Contracts of Transfer of Technology 16 hrs
 - International Logistics of Industrial Goods 12 hrs
10. Cross Disciplinary Cases (10 hours)
 - Supervision of multidisciplinary case studies by Consultants 10 hrs

Please note that same Modules may spread over 2 Semesters, hence semester hour totals may not exactly amount to 264.

FACULTY OF ENGINEERING (FE)

Dr. Elias Nassar, *Dean*

DEPARTMENT OF CIVIL AND ENVIRONMENTAL
ENGINEERING

Dr. Jacques Harb, *Chairperson*

DEPARTMENT OF ELECTRICAL AND COMPUTER AND
COMMUNICATION ENGINEERING

Dr. Rabih Jabr, *Chairperson*

DEPARTMENT OF MECHANICAL ENGINEERING

Dr. Michel El-Hayek, *Chairperson*

FACULTY DIRECTORY

Office of the Dean

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Room E 311
Tel: 09-218-950/51/52 Extension 2028
e-mail: enassar@ndu.edu.lb

Department of Civil and Environmental Engineering

Engineering Building, 3rd floor,
Room E 308
Tel: 09-218-950/51/52 Extension 2029
e-mail: jharb@ndu.edu.lb

Department of Electrical and Computer and Communication Engineering

Engineering Building, 3rd floor,
Room E 302
Tel: 09-218-950/51/52 Extension 2174
e-mail: rjabr@ndu.edu.lb

Department of Mechanical Engineering

Engineering Building, 3rd floor,
Room E 306
Tel: 09-218-950/51/52 Extension 2232
e-mail: mhayek@ndu.edu.lb

FACULTY OF ENGINEERING

LIST OF FULL-TIME FACULTY MEMBERS

Professors Emeritus

Assaf, Walid, Ph.D., 1965, Iowa State University, USA

¹*Khoury, Shahwan*, Ph.D, 1965, *Electrical Engineering (Applied Space Science)*, Carnegie Institute of Technology, CMU, USA

Associate Professors

El-Hayek, Michel, Docteur Européen, 1997, *Sciences Appliquées*, Faculté Polytechnique de Mons, Belgium

Georges, Semaan, Ph.D., 2001, Ecole de Technologie Supérieure, Canada

Hamad, Mustapha, Ph.D., 1995, University of South Florida, USA

Harb, Jacques, Ph.D., 1996, Northeastern University, USA

Jabr, Rabih, Ph.D., 2000, Imperial College, University of London, UK

Nassar, Elias, Ph.D., 1997, The Ohio State University, USA

Assistant Professors

Asmar, Ghazi, Ph.D., 1998, *Mechanical and Aerospace Engineering*, University of Missouri, USA

Chakar, Elie, Docteur, 1994, *Sciences et techniques du bâtiment*, Ecole Nationale des Ponts et Chaussées, France

Elmurr, Sami, Ph.D., 1986, Mississippi State University, USA

Francis, Francis, Ph.D., 2003, University of New South Wales, Australia

Hassoun, George, Ph.D., 1996, University of Adelaide, Australia

Kassem, Abdallah, Ph.D., 2005, Ecole Polytechnique de Montreal, Canada

Mendalek, Nassar, Ph.D., 2003, Ecole de Technologie Supérieure, Canada

Laboratory Instructors

Breidy, George, M.B.A., 2004, *Business Administration*, NDU, Lebanon

Mounsef, Jinane, M.E., 2003, *Computer and Communication Engineering*, AUB, Lebanon

²*Nissi, Sophia Ghanimeh*, M.E., 2004, *Civil Engineering*, AUB, Lebanon

Zakhem, Walid, M.S., 1992, *Electrical Engineering*, Southern Illinois University, USA

Eid, Joseph, Mastère d' Ingénieur, 2005, *Informatique et Télécommunications*, Université Antonine, Lebanon

Laboratory Assistants

Daou, Wissam, B.E., 2000, *Mechanical Engineering*, NDU, Lebanon

El-Turkey, Nisrine, B.E., 2003, *Computer & Communication Engineering*, NDU, Lebanon

Siranossian, Aline, B.E., 2001, *Electrical Engineering*, NDU, Lebanon

¹ On tenure appointment

² On leave

List of Staff Members

Bassil, Edward, *Printing Officer*, Faculty of Engineering

Eid, Maroun, *Laboratory Technician*, Mechanical Engineering Laboratories

Elias, Jeanette, M.A., *Media Studies-Advertising*, 2006, NDU, Lebanon, *Administrative Assistant*, Office of the Dean

Khalil, Marise Abboud, B.A., *Advertising and Marketing*, 2002, NDU, Lebanon, *Secretary*

Lahoud, Elie, *Laboratory Technician*, Civil and Environmental Engineering Laboratories

Mozaya, Nathalie Fahed, B.A., *Advertising and Marketing*, 2001, NDU, Lebanon, *Secretary*

Younes, Janane, B.A., *Business Administration*, 1988, Lebanese University, Lebanon, *Secretary*

FACULTY OF ENGINEERING

Dean: *Dr. Elias Nassar*

Administrative Assistant: *Miss. Jeanette Elias*

AIMS

The Faculty of Engineering endeavors to graduate engineers who understand the ethical, social, economic and environmental context of their profession and who apply their knowledge with judgment and responsibility to develop ways to utilize the materials and forces of nature for the benefit of mankind.

The programs in civil, computer and communication, electrical and mechanical engineering prepare the students to enter immediately the professional practice upon graduation and to pursue graduate study.

The curricula of the Engineering Departments share three basic tenants: scientific and technological competence, balance between theory and practice, and commitment to self-maintained and enduring personal and professional development.

Courses are enhanced by excellent computing facilities and by extensive hands-on state-of-the-art laboratory experiences that are integrated throughout the five-year curricula.

Class and laboratory enrollment is maintained at small class sizes to ensure personal attention by a faculty that is committed to outstanding instruction as well as close student-faculty interaction both within and outside the classroom.

The Faculty supports and counsels on-campus chapters of international professional organizations that engage in a variety of activities to provide the students with national and international exposure.

Academic departments and Programs

The Faculty of Engineering (FE) consists of the following departments:

- Department of Civil and Environmental Engineering
- Department of Electrical and Computer and Communication Engineering
- Department of Mechanical Engineering

and offers programs in Civil Engineering (CE), Mechanical Engineering (ME), Electrical Engineering (EE), and Computer and Communication Engineering (CCE), leading to the degree of Bachelor of Engineering.

Facilities

The states-of-the-art and extensive laboratories of the Faculty of Engineering are available for faculty and student research, senior engineering projects, engineering competition projects and instruction, through open hours and scores of regularly scheduled laboratory courses.

Faculty members in the academic ranks are responsible for the lab course content, relevance to the curriculum, project supervision and the facilities development and update. Dedicated instructors supported by the laboratory staff are in charge of the laboratory courses instruction.

With these academic functions, laboratories have the effective capabilities, practical functionalities and excellent quality to provide wide-ranging services to the engineering profession. These services include certified testing to the construction industry as well as advanced and unique experimental research.

Curricula

The curriculum of each program is listed under the appropriate department. All engineering curricula share a common General Education Requirements (GER) component of 24 credits distributed as follows:

General Education Requirements 24 cr.

Communications Skills 6 cr.

ENL 213 and ENL 230

Cultural Studies 6 cr.

a One course from:

REG 212, REG 213

b. One course from:

ARB 211, ARB 212, ARB 231, HUT 305, HUT 306, HUT 411, LIR 211, LIR 212 or equivalent LIR, FDP 201, FAP 214, GDP 224, PDP 201

Basic Science Studies 6 cr.

Two courses from: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201

GER Free Elective 6 cr.

Two additional courses from the above indicated courses with the stipulation that GER may not include:

a) More than one Arabic course

b) Any course required for the major.

and Faculty of Engineering Requirements (FER) component of 6 credits as follows:

ENG 201 Introduction to Engineering (3.0); 3 cr. Engineering design: needs, specifications, feasibility, models. System, detailed alternative and optimum design. Reliability and liability. Communication. Patents and copyrights. Ethics.

ENG 202 Computers and Engineering (3.0); 3 cr. Operating systems. Application softwares: MATLAB. Programming and Languages. Computer Architecture. Input/output. Storage. Network Architecture. Hardware applications: Data acquisition, PLC.

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

Chairperson: *Dr. Jacques Harb*

Secretary: *Mrs. Janane Younes*

Associate Professor

Harb, Jacques, Ph.D., 1996, Northeastern University, USA

Assistant Professor

Chakar, Elie, Docteur, 1994, Ecole Nationale des Ponts et Chaussées, France
Sciences et Techniques du Bâtiment

Laboratory Instructor

¹*Nissi, Sophia Ghanimeh*, M.E., 2004, American University of Beirut, Lebanon
Civil Engineering

The Degree of Bachelor of Engineering in Civil Engineering

This program aims at graduating civil engineers capable of applying their knowledge to serve society's needs in the design and construction of civil systems, while respecting nature and environmental ethics.

Admission Requirements

In addition to the University general admission requirements, Civil Engineering transfer students may be accepted in the Faculty of Engineering provided they have a grade-point average of at least 2.0/4.0 in a minimum of 12 credits of transferable courses. The number of transfer credits is determined by the Department of Civil and Environmental Engineering according to the guidelines of the Faculty of Engineering.

Residency Requirements

Full time students entering the civil engineering program of first year standing must complete the listed program within eight years of the date of enrollment in the program.

A transfer candidate with a bachelor degree in Civil Engineering from an accredited institution is required to successfully complete a minimum of 32 credits of upper-division course work including a graduation project. A transfer student without a bachelor degree in civil engineering is required to successfully complete a minimum of 45 credits of upper-division course work including 6 credits of project work.

Course Load Requirements

In general, students are not allowed to carry more than 17 credits per semester, nor more than 9 credits in a summer session unless otherwise specified in their suggested program. Restrictions may be imposed on students whose overall grade-point average is less than 2.3/4.0. Upon the approval of the advisor, a student whose overall grade-point average is no less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per semester.

Students in their last semester may petition to take up to 19 crs. given they are in good academic standing and they satisfy the minimum residency requirement for the major.

¹ On leave

Graduation Requirements

To obtain the degree of bachelor of engineering in civil engineering, a student must complete a total of 150 credits with an overall grade-point average of at least 2.0/4.0 and a minimum average of 2.0/4.0 in the major requirements and technical electives. In addition, each major requirement course as well as technical elective courses must be successfully completed with a minimum grade of C-. These 150 credits are divided into:

Degree Requirements (150 credits)

General Education Requirements 24 cr.

Core Requirements 46 cr.

CHM 211, CSC 212, CSC 270, EEN 205, ENG 201, ENG 202, MAT 213, MAT 215, MAT 224, MAT 235, MAT 326, MEN 201, MEN 210, MEN 320, PHS 203, GEO 201

Major Requirements 57 cr.

CEN 100, CEN 102, CEN 150, CEN 151, CEN 170, CEN 200, CEN 210, CEN 211, CEN 220, CEN 300, CEN 320, CEN 321, CEN 330, CEN 350, CEN 351, CEN 360, CEN 361, CEN 362, CEN 363, CEN 365, CEN 430, CEN 431, CEN 440, CEN 490

Approved Summer Training 6 cr.

CEN 491

Technical Electives 12 cr.

Choose any four courses from the following pool: CEN 393, CEN 400, CEN 401, CEN 402, CEN 403, CEN 404, CEN 405, CEN 406, CEN 410, CEN 411, CEN 412, CEN 420, CEN 421, CEN 432N, CEN 433, CEN 441, CEN 450, CEN 451, CEN 452, CEN 460, CEN 461, CEN 470, CEN 471, CEN 480, CEN 481, CEN 482, CEN 492, CEN 493, CEN 494, MEN 400, MAT 339

Or follow one of the tracks below:

Track A: Structural and Material Engineering

CEN 400, CEN 401, CEN 402, CEN 403, CEN 404, CEN 405, CEN 406, CEN 410, CEN 411, CEN 412, CEN 432N, CEN 433, CEN 441, CEN 480, CEN 481, CEN 482, CEN 492, CEN 493, CEN 494, MEN 400, MAT 339.

Track B: GeoEnvironmental Engineering

CEN 393, CEN 420, CEN 421, CEN 460N, CEN 461, CEN 480, CEN 481, CEN 482, CEN 492, CEN 493, CEN 494, MAT 339.

Track C: Transportation and Planning Engineering

CEN 393, CEN 450, CEN 451, CEN 452, CEN 492, CEN 493, CEN 494, MAT 339.

Track D: Construction Management

CEN 393, CEN 470, CEN 471, CEN 492, CEN 493, CEN 494, MAT 339.

Free Electives 5 cr.

Include any course offered of particular interest, of sophomore level (200 level) or above

**Bachelor of Engineering in Civil Engineering
Suggested Program (150 Credits)**

Year 1

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CEN | 100 | Statics | 3 cr. |
| CEN | 170 | Engineering Graphics | 1 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| ENG | 201 | Introduction to Engineering | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| CEN | 150 | Surveying | 2 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| CEN | 102 | Mechanics of Materials | 3 cr. |
| PHS | 203 | General Physics III | 3 cr. |
| ENG | 202 | Computers & Engineering | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| MEN | 201 | Dynamics | 3 cr. |
| CEN | 151 | Field Surveying | 1 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | General Education Requirements | 3 cr. |
| — | — | Free Elective | 3 cr. |

Year 2

Fall Semester II (16 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| CEN | 200 | Mechanics of Materials Laboratory | 1 cr. |
| CEN | 210 | Structures I | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| MEN | 210 | Thermodynamics I | 3 cr. |
| CHM | 211 | Principles of Chemistry | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CEN | 211 | Structures II | 3 cr. |
| CEN | 220 | Soil Mechanics | 3 cr. |
| CSC | 270 | Computer Aided Engineering Design | 1 cr. |
| EEN | 205 | Electric Circuits | 3 cr. |
| CSC | 212 | Program Design and Data Abstraction | 3 cr. |
| MEN | 320 | Fluid Mechanics I | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|--------------------------------|-------|
| — | — | General Education Requirements | 3 cr. |
| — | — | General Education Requirements | 3 cr. |
| — | — | General Education Requirements | 3 cr. |

Year 3

Fall Semester III (16 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| CEN | 300 | Advanced Mechanics of Materials | 3 cr. |
| GEO | 201 | Physical Geology | 3 cr. |
| CEN | 321 | Soil Mechanics Laboratory | 1 cr. |
| CEN | 350 | Transportation Engineering I | 3 cr. |
| CEN | 360 | Hydraulics | 3 cr. |
| — | — | General Education Requirements | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| CEN | 330 | Concrete Design I | 3 cr. |
| CEN | 351 | Transportation Engineering II | 3 cr. |
| CEN | 361 | Hydraulics Laboratory | 1 cr. |
| CEN | 362 | Environmental Engineering | 3 cr. |
| CEN | 363 | Water and Waste Water Networks | 3 cr. |
| — | — | General Education Requirements | 3 cr. |

Summer Session III (6 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CEN | 491 | Approved Summer Training ¹ | 6 cr. |
| Or | | 2 CEN Courses | |

Year 4**Fall Semester IV (16 Credits)**

| | | | |
|-----|-----|--|-------|
| CEN | 430 | Concrete Design II | 3 cr. |
| CEN | 431 | Concrete and Pavement Design Lab | 1 cr. |
| CEN | 440 | Steel Design | 3 cr. |
| CEN | 320 | Shallow Foundations | 3 cr. |
| MAT | 326 | Probability and Statistics for Engineers | 3 cr. |
| — | — | Technical Elective | 3 cr. |

Spring Semester IV (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| CEN | 365 | Environmental Engineering Laboratory | 1 cr. |
| CEN | 490 | Civil Engineering Project | 3 cr. |
| — | — | Free Elective | 2 cr. |
| — | — | Technical Elective | 3 cr. |
| — | — | Technical Elective | 3 cr. |
| — | — | Technical Elective | 3 cr. |

¹ Summer Training requirement may be waived by taking 6 credits of technical Civil Engineering courses. Pass/Fail grades are awarded for the summer training course.

Civil Engineering Courses

CEN 100 Statics (3.0); 3cr. Forces, moments and couples; free body diagrams; problems involving beams, trusses, and various engineering applications.

CEN 102 Mechanics of Materials (3.0); 3cr. Tension, compression, shear and bending moment diagrams; torsion; stress-strain relationship; stresses in beams; pressure vessel; combined loading and unsymmetric bending; Mohr's circle beam deflections; buckling of columns. *Prerequisite:* CEN 100.

CEN 150 Surveying (2.0); 2 cr. Surveying and instrumentation; Introduction to optical, photographic, mathematical, and geometrical principles relevant to photogrammetry and remote sensing; introduction to global positioning system.

CEN 151 Field Surveying (0.2); 1 cr. Field plane surveying; topographic mapping; location survey and route surveying. *Prerequisite:* CEN 150.

CEN 170 Engineering Graphics (0.2); 1 cr. Drawing of three-dimensional objects, orthographic, sectional, pictorial view. Developed surfaces and intersections.

CEN 200 Mechanics of Materials Laboratory (0.2); 1cr. Testing for material characterization. Experiments related to static and fatigue testing of various types of materials. Tests include tension, compression, bending and buckling. *Prerequisite:* CEN 102.

CEN 201 Engineering Mechanics (3.0); 3cr. Forces; free body diagrams; beams; trusses, tension, compression, shear and bending moment diagrams; stress-strain relationship; stress in beams due to bending and shear forces; torsion of circular members, buckling of columns. Opened only to EE and CCE students.

CEN 210 Structures I (3.0); 3cr. Structural forms; analysis of structurally determinate structures; moving loads, influence lines; introduction to indeterminate structures. Collapse and analysis. *Prerequisite:* CEN 102.

CEN 211 Structures II (3.0); 3 cr. Analysis of statically indeterminate structures; methods of consistent deformations, slope, deflection, and moment distribution. Energy theorems and applications to trusses, beams, and frames. *Prerequisite:* CEN 210.

CEN 220 Soil Mechanics (3.0); 3cr. Stress-strain relations and properties of soil, seepage and flow nets. Bearing capacity of soils, footings on sand and clay. *Prerequisite:* CEN 102.

CEN 300 Advanced Mechanics of Materials (3.0); 3 cr. Three dimensional strain and stress states, application of energy methods, torsion of noncircular members, nonsymmetrical bending of straight beams, shear center for thin-wall beam cross sections, curved beams. *Prerequisite:* CEN 102.

CEN 308 Statics for Architects (3.0); 3 cr. Forces, moments and couples; free body diagrams; centroids; moment of inertia; problems involving beams, trusses, and frames.

CEN 309 Mechanics of Materials for Architects (3.0); 3 cr. Axial members; shear and bending moment diagrams; stress-strain relationship; flexural and shear stresses in beams; Mohr circles; beam deflections; buckling of columns. *Prerequisite:* CEN 308.

CEN 320 Shallow Foundations (3.0); 3cr. Subsurface explorations, methods of exploration and sampling, design of sheeting and bracing systems for shallow foundations. Consolidation theory, settlement analysis. *Prerequisite:* CEN 220.

CEN 321 Soil Mechanics Laboratory (0.2); 1 cr. The nature of soil behavior; laboratory tests include physical properties of soils, stress-strain relationships, compressibility, and shear strength. *Prerequisite:* CEN 220.

CEN 330 Concrete Design I (3.0); 3 cr. Behavior of reinforced concrete. Ultimate strength design method. Design of beams for flexure and shear, one-way slabs, and short columns. *Prerequisite:* CEN 210, or instructor's approval.

CEN 350 Transportation Engineering I (3.0); 3 cr. Transportation in society, transportation modes; highway classification. Design elements and criteria, geometric design of highways, intersections and interchanges, earthworks and roadbed construction. Level-of-service, vehicle flow and capacity concepts; traffic control. Parking. *Prerequisites:* CEN 150, CEN 220.

CEN 351 Transportation Engineering II (3.0); 3 cr. Road networks supply, traffic demand relationships, introduction to operating

principles and procedures for transportation systems; cost concepts. Airports and air transportation systems. Ports, harbors, and water transportation systems. Railways. Pavement design. *Prerequisite:* CEN 350.

CEN 360 Hydraulics (3.0); 3 cr. Open channel flow, momentum and energy principles; water surface profiles; flow measurement. *Prerequisite:* MEN 320.

CEN 361 Hydraulics Laboratory (0.2); 1 cr. Applying continuity, momentum, and energy principles to flow problems. Experiments include laminar and turbulent flows, major and minor losses, hydraulic jump, weirs, flow measurements. *Prerequisite:* CEN 360.

CEN 362 Environmental Engineering (3.0); 3 cr. Quantitative evaluation of the environmental, economic, and technical problems involved in control of pollutants of the air, water, and land. *Prerequisite:* MEN 320.

CEN 363 Water and Waste Water Networks (3.0); 3 cr. Quantities of water and wastewater; collection, transportation, and distribution; water distribution network; design of sanitary and storm-water sewer systems. *Prerequisite:* CEN 360.

CEN 365 Environmental engineering Laboratory (1.0); 1 cr. Laboratory and field experiments related to pollution of air, water and soil. Tests include air sampling, water testing, sound measurement, wastewater treatment, compost tests and landfill cover performance. *Prerequisite:* CEN 362.

CEN 393 Project Management (3.0); 3 cr. Fundamentals of Project Management, engineering organization, planning, budgeting, scheduling and cost controls, bidding process, tender documents and contracts. Examples will be given in all fields of Engineering. *Prerequisite:* Junior Standing

CEN 400 Elasticity (3.0); 3 cr. Stress-Strain, elasticity formulation, solution by potentials, stress functions, torsion, thick cylinders, rotating disks, thermal stresses, straight simple beams, curved beams. *Prerequisite:* CEN 300.

CEN 401 Advanced Elasticity (3.0); 3 cr. Semi-infinite elastic medium and related problems, energy problems, variational methods, columns, beam columns, bending of thin plate, theory of thin shells, *Prerequisite:* CEN 400.

CEN 402 Stress Wave Propagation (3.0); 3 cr. Waves and vibration in strings, longitudinal waves in thin rods, flexural waves in thin rods, waves in membranes, thin plates, and shells. Waves in infinite media. *Prerequisite:* CEN 400.

CEN 403 Advanced Stress Wave Propagation (3.0); 3 cr. Waves in infinite media, waves in semi-infinite media scattering and diffraction of elastic waves, wave propagation in plates and rods. *Prerequisite:* CEN 402.

CEN 404 Experimental Stress Analysis (3.0); 3 cr. Methods of strain measurements and strain determination, brittle coating, electrical resistance gage, photo elastic techniques. *Prerequisite:* CEN 200.

CEN 405 Energy Methods (3.0); 3 cr. Principles of virtual work, total potential energy, complimentary virtual work, total complimentary energy, and Reissner's principle for solid mechanics problems. Applications to bars, columns and plates. *Prerequisite:* CEN 300.

CEN 406 Continuum Mechanics (3.0); 3 cr. Tensor notation and manipulation, stress and deformation in a continuum. Eulerian forms of physical laws governing the motion of a continuum. Application to solids. *Prerequisite:* CEN 300.

CEN 410 Matrix Method for Structural Analysis (3.0); 3 cr. Displacement (stiffness) method, truss applications, rectilinear, tapered and curved beams, matrix transformation, frame analysis, influence coefficients and coordinate transformation, force method. *Prerequisite:* CEN 211.

CEN 411 Dynamics of Structures (3.0); 3 cr. Theory and application of structural dynamics for single and multiple degree-of-freedom models of buildings due to dynamic forces. Concepts of overall seismic design of buildings, proportioning, and detailing to achieve satisfactory seismic response. *Prerequisite:* CEN 410 or instructor's approval.

CEN 412 Structural Project (3.0); 3 cr. Usage of commercial software packages in the analysis and design of multi-story concrete and steel buildings, Bridges and storage tanks. *Prerequisites:* CEN 430, CEN 440.

CEN 419 Structures for Architects (3.0); 3cr. Structural forms; analysis of structurally determinate structures; moving loads, influence

lines; introduction to indeterminate structures and approximate solutions; modeling and analysis of structures using structural analysis software packages. *Prerequisite:* CEN 309.

CEN 420 Slope Stability (3.0); 3 cr. Slope stability analysis methods. Use of software packages. *Prerequisite:* CEN 320.

CEN 421 Deep Foundations (3.0); 3 cr. Subsurface exploration and sampling, design of sheeting and bracing systems for deep foundations. Pile and corrosion analysis. *Prerequisite:* CEN 320.

CEN 430 Concrete Design II (3.0); 3 cr. Study of the strength, behavior, and design of indeterminate reinforced concrete structures, with primary emphasis on slab systems; emphasis on the strength of slabs and on the available methods of design of slabs spanning in two directions, with or without supporting beams. Analysis and design of long columns, and footings. *Prerequisite:* CEN 330.

CEN 431 Concrete and Pavement Design Laboratory (0.2); 1 cr. Experiments dealing with concrete and asphalt properties, proportioning, design and analysis. *Prerequisites:* CEN 330, CEN 351.

CEN 432 Design of Structural Systems (3.0); 3 cr. The whole structural design process including definition of functional requirements, selection of structural scheme, formulation of design criteria, preliminary and computer-aided proportioning, and analysis of response, detailing. *Prerequisites:* CEN 430, CEN 440, or instructor's approval.

CEN 433 Prestressed Concrete (3.0); 3 cr. Fundamentals of analysis and design of post-tensioned and pre-tensioned structural members, proportioning of members, calculation of the amount and positioning of reinforcement. *Prerequisite:* CEN 430 or instructor's approval.

CEN 439 Concrete Design for Architects (3.0); 3 cr. Behavior of reinforced concrete; ultimate strength design method; pre-dimensioning of concrete structural elements; design of beams for flexure and shear, one-way slabs, footings, and short columns. Analysis methods of concrete frames. *Prerequisite:* CEN 419.

CEN 440 Steel Design (3.0); 3 cr. Design of steel beam girders, tension member columns,

bolted, riveted, and welded connections. *Prerequisite:* CEN 210.

CEN 441 Advanced Steel Design (3.0); 3 cr. Design of structural systems for multiple loads, combined loading, torsion, and fatigue in structural members, plate and box members. *Prerequisite:* CEN 440.

CEN 450 Advanced Surveying (3.0); 3 cr. Subdivision theory, usage of total station in field surveying. *Prerequisites:* CEN 150, CEN 151.

CEN 451 Highway Design (3.0); 3 cr. Design criteria including capacity and level of service. Geometric design and construction practices; alignment and right of way consideration; earthworks. Intersection design elements. Pavement materials. *Prerequisite:* CEN 350.

CEN 452 Bridge Engineering (3.0); 3 cr. Principles and methods used in the design and construction of bridge structures. *Corequisites:* CEN 430, CEN 440.

CEN 460 Air pollution Engineering (3.0); 3 cr. Characterization of sources, emissions, transport, transformation, effects, and control of air pollutants. *Prerequisites:* CEN 362, or instructor's approval.

CEN 461 Water Pollution control and treatment (3.0); 3 cr. Fundamental principles and engineering application of physical, chemical, and biological processes (like sedimentation, filtration, coagulation, flocculation, membranes, aerobic, anaerobic biological processes) are discussed. *Prerequisite:* CEN 362, or instructor's approval.

CEN 470 Electrical, Mechanical, and Sanitary Systems (3.0); 3 cr. Electrical requirements and distribution in buildings; design of heating, cooling, and ventilation systems; selection and design of water distribution and plumbing systems.

CEN 471 Civil Engineering Laws and Ethics (3.0); 3 cr. Survey of Lebanese construction codes and regulations; civil engineering practice as related to environmental destruction and moral behavior.

CEN 480 Finite Element Methods I (3.0); 3 cr. Theory and application of finite element methods as an analysis tool for two-dimensional stress problems in engineering. *Prerequisite:* CEN 300 or instructor's approval.

CEN 481 Finite Element Methods II (3.0); 3 cr. Solution of advanced three-dimensional stress problems in engineering. *Prerequisite:* CEN 480.

CEN 482 Nonlinear Finite Element Methods (3.0); 3 cr. Isoparametric finite element discretization, incremental equations of motion. Total and update lagrangian formulation. Nonlinear geometry, nonlinear material problems. Use of software packages for final solutions. *Prerequisite:* CEN 481.

CEN 490 Engineering Project; 3 cr. Individual supervised work in one of the main field of Civil Engineering. *Prerequisite:* CEN 491.

CEN 491 Approved Summer Training; 6 cr. Department approved summer training practice in Civil Engineering. A report is required. *Prerequisite:* Senior Standing.

CEN 492 Engineering Economy (3.0); 3 cr. Interest and time value of money. Investment, financing, depreciation, and economic selection. Analysis of engineering costs and capital investment in the design and implementation of engineering projects.

CEN 493 Construction Planning (3.0); 3 cr. Job Planning and management, selection of construction equipment, soil stabilization, tractors, scrapers, excavating equipment, trucks, operation analysis, drilling rock, blasting, tunneling.

CEN 494 Selected Topics in Civil Engineering (3.0); 3 cr. Structured presentations of new and developing areas of knowledge in civil engineering offered by the department to augment the formal courses available. *Prerequisite:* Individually identified for each offering under this course number.

DEPARTMENT OF ELECTRICAL AND COMPUTER AND COMMUNICATION ENGINEERING

Chairperson: *Dr. Rabih Jabr*

Secretary: *Ms. Nathalie Fahed Mozaya*

Professor Emeritus

Khoury, Shahwan, Ph.D., 1965, Carnegie Institute of Technology, CMU, USA
Electrical Engineering (Applied Space Science)

Associate Professors

Elmurr, Sami, Ph.D., 1986, Mississippi State University, USA

Georges, Semaan, Ph.D., 2001, Ecole de Technologie Supérieure, Canada

Hamad, Mustapha, Ph.D., 1995, University of South Florida, USA

Jabr, Rabih, Ph.D., 2000, Imperial College, University of London, UK

Nassar, Elias, Ph.D., 1997, The Ohio State University, USA

Assistant Professors

Hassoun George, Ph.D., 1996, University of Adelaide, Australia

Kassem, Abdallah, Ph.D., 2005, Ecole Polytechnique de Montreal, Canada

Mendalek, Nassar, Ph.D., 2003, Ecole de Technologie Supérieure, Canada

Laboratory Instructors

Breidy, George, M.B.A., 2004, NDU, Lebanon

Business Administration

Mounsef, Jinane, M.E., 2003, AUB, Lebanon

Computer and Communication Engineering

Zakhem, Walid, M.S., 1992, Southern Illinois University, USA

Electrical Engineering

Laboratory Assistants

Eid, Joseph, Mastère d' Ingénieur, 2005, Université Antonine, Lebanon

Informatique et Télécommunications

El-Turkey, Nisrine, B.E., 2003, NDU, Lebanon

Computer & Communication Engineering

Siranossian, Aline, B.E., 2001, NDU, Lebanon

Electrical Engineering

The Degree of Bachelor of Engineering in Computer and Communication Engineering

This program is concerned with the design and use of computing devices and communication systems for processing, retrieval and storage of information. Areas include design of computer hardware, software and networks and design of telecommunication devices and systems.

Admission Requirements

Admission to the Computer and Communication Engineering program is governed by the university admission requirements as outlined in the university catalog.

In addition to the university general admission requirements, computer and communication engineering transfer students may be accepted into the Faculty of Engineering provided they have a grade point average of at least 2.0/4.0 in a minimum of 12 credits of transferable courses. The number of transfer credits is determined by the Faculty of Engineering.

Residency Requirements

Full time students entering the computer and communication engineering program of first year standing must complete the listed program within eight years of the date of enrollment in the program.

A transfer candidate with a bachelor degree in computer and communication engineering from an accredited institution is required to successfully complete a minimum of 32 credits of upper-division course work including a graduation project. A transfer student without a bachelor degree in computer and communication engineering is required to successfully complete a minimum of 45 credits of upper-division course work including 3 credits of project work.

Course Load Requirements

In general students are not allowed to carry more than 17 credits per term and not more than 7 credits in a summer session unless otherwise specified in their suggested program.

Restrictions may be imposed on students whose overall grade point average is less than 2.3/4.0. Upon the approval of the advisor, a student whose overall grade-point average is no less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per semester.

Students in their last semester may petition to take up to 19 crs. given they are in good academic standing and they satisfy the minimum residency requirement for the major.

Graduation Requirements

To receive a degree of Bachelor of Engineering in computer and communication engineering, a student must complete a total of 150 credits with an overall grade point average of at least 2.0/4.0 and a minimum average of 2.0/4.0 in the major requirements and technical electives. In addition all major requirements and technical elective courses must be successfully completed with a minimum grade of C-. These 150 credits are divided into:

Degree Requirements (150 credits)

General Education Requirements **24 cr.**

Core Requirements **39 cr.**

CEN 201, ENG 201, ENG 202, MAT 211, MAT 213, MAT 215, MAT 224, MAT 235, MAT 326, MAT 335 CHM 211, PHS 212, PHS 213.

Major Requirements **64 cr.**

CSC 212, CSC 213, CSC 312, CSC 414/CSC415, CSC 425, EEN 201, EEN 202, EEN 203, EEN 210, EEN 220, EEN 221, EEN 311, EEN 312, EEN 322, EEN 324, EEN 325, EEN 330, EEN 331, EEN 340, EEN 344, EEN 370, EEN 443, EEN 571.

Technical Electives **20 cr.**

Students should complete 20 credits of approved technical electives in EEN and CSC courses including two elective laboratories.

Year 3 Technical Electives (2 CSC courses): CSC 311, CSC 313, CSC 315, CSC 316, CSC 323, CSC 385, CSC 387.

Year 4 Technical Electives (2 EEN and 2 EEN/CSC courses, at most one EEN 300 level course may be taken as part of Year 4 Electives): CSC 412, CSC 422, CSC 423, CSC 426, CSC 431, CSC 432, CSC 463, EEN 315, EEN 326, EEN 327, EEN 342, EEN 350, EEN 360, EEN 416, EEN 421, EEN 422, EEN 426, EEN 430, EEN 431, EEN 432, EEN 433, EEN 436, EEN 473, EEN 480, EEN 523, EEN 545, EEN 546, EEN 547, EEN 548, EEN 583, EEN 585.

Technical Elective Lab. 1 courses: EEN 328, EEN 363, EEN 365.

Technical Elective Lab. 2 courses: EEN 439, EEN 444, EEN 481.

Students can substitute practical training (EEN 370) for two technical elective courses taken in Summer of Year 3 if desired. These electives contain a significant design component and include: EEN 315, EEN 326, EEN 412, EEN 421, EEN 430, EEN 435, or a Department approved course.

Free Elective **3 cr.**

This elective is chosen by the students according to their interests in broadening their knowledge. It can be any course offered by the university provided that it is of Sophomore level (200 level) or above.

**Bachelor of Engineering in Computer and Communication Engineering
Suggested Program (150 Credits)**

Year 1

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ENG | 201 | Introduction to Engineering | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CEN | 201 | Engineering Mechanics | 3 cr. |
| ENG | 202 | Computers & Engineering | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| PHS | 212 | Electricity & Magnetism | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Year 2

Fall Semester II (16 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CSC | 212 | Program Design and Data Abstraction I | 3 cr. |
| EEN | 201 | Circuits Analysis I | 3 cr. |
| EEN | 220 | Introduction to Logic Design | 3 cr. |
| EEN | 221 | Logic Design Laboratory | 1 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 213 | Program Design and Data Abstraction II | 3 cr. |
| EEN | 202 | Circuits Analysis II | 3 cr. |
| EEN | 203 | Circuits Laboratory | 1 cr. |
| EEN | 210 | Electronic Circuits I | 3 cr. |
| MAT | 335 | Partial Differential Equations | 3 cr. |
| PHS | 213 | Modern Physics | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 312 | Computer Architecture | 3 cr. |
| MAT | 326 | Probability and Statistics for Engineers | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Year 3

Fall Semester III (16 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| CSC | — | Technical Elective 1 | 3 cr. |
| EEN | 311 | Electronic Circuits II | 3 cr. |
| EEN | 312 | Electronic Circuits Laboratory | 1 cr. |
| EEN | 330 | Electromagnetics I | 3 cr. |
| EEN | 340 | Signals & Systems | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| CSC | — | Technical Elective 2 | 3 cr. |
| EEN | 322 | Digital Integrated Circuits | 3 cr. |
| EEN | 324 | Microprocessor System Design | 3 cr. |
| EEN | 325 | Microprocessor Laboratory | 1 cr. |
| EEN | 331 | Electromagnetics II | 3 cr. |
| EEN | 344 | Communication Systems I | 3 cr. |

Summer Session III (6 Credits)

| | | | |
|-----|-----|--|-------|
| EEN | 370 | Practical Training or 2 CCE Design Electives | 6 cr. |
|-----|-----|--|-------|

Year 4**Fall Semester IV (16 Credits)**

| | | | |
|---------|-----|-----------------------------------|-------|
| CSC | 414 | Applied Operating Systems | 3 cr. |
| OR | | | |
| CSC | 415 | Introduction to Operating Systems | |
| EEN/CSC | — | Technical Elective 3 | 3 cr. |
| EEN | — | Technical Elective 4 | 3 cr. |
| EEN | — | Technical Elective Lab 1 | 1 cr. |
| EEN | 443 | Communication Systems II | 3 cr. |
| EEN | 571 | Engineering Project | 3 cr. |

Spring Semester IV (16 Credits)

| | | | |
|---------|-----|--------------------------------------|-------|
| CSC | 425 | Data Communications & Comp. Networks | 3 cr. |
| EEN/CSC | — | Technical Elective 5 | 3 cr. |
| EEN | — | Technical Elective 6 | 3 cr. |
| EEN | — | Technical Elective Lab 2 | 1 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

The Degree of Bachelor of Engineering in Electrical Engineering

The electrical engineering program promotes the development of technologies that affect our every day life. An Electrical Engineer's work includes the design of analog and digital electronic systems, design and operation of power systems (generation, transmission and distribution), design of auxiliary models to stabilize and/or modify the dynamics of systems (autopilot of aircraft, on-board control systems of automobiles), design of devices for telecommunication systems (cellular phones, microwave links).

Admission Requirements

Admission to the Electrical Engineering program is governed by the university admission requirements as outlined in the university catalog.

In addition to the university general admission requirements, electrical engineering transfer students may be accepted into the Faculty of Engineering provided they have a grade point average of at least 2.0/4.0 in a minimum of 12 credits of transferable courses. The number of transfer credits is determined by the Faculty of Engineering.

Residency Requirements

Full time students entering the electrical engineering program of first year standing must complete the listed program within eight years of the date of enrollment in the program. A transfer candidate with a bachelor degree in electrical engineering from an accredited institution is required to successfully complete a minimum of 32 credits of upper division course work including a graduation project. A transfer student without a bachelor degree in electrical engineering is required to successfully complete a minimum of 45 credits of upper-division course work including 3 credits of project work.

Course Load Requirements

In general, students are not allowed to carry more than 17 credits per term and not more than 7 credits in a summer session unless otherwise specified in their suggested program. Restrictions may be imposed on students whose overall grade point average is less than 2.3/4.0. Upon the approval of the advisor, a student whose overall grade-point average is no less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per semester.

Students in their last semester may petition to take up to 19 crs. given they are in good academic standing and they satisfy the minimum residency requirement for the major.

Graduation Requirements

To receive a degree of Bachelor of Engineering in electrical engineering, a student must complete a total of 150 credits with an overall grade point average of at least 2.0/4.0 and a minimum average of 2.0/4.0 in the major requirements and technical electives. In addition, all major requirement and technical elective courses must be successfully completed with a minimum grade of C-. These 150 credits are divided into:

Degree Requirements (150 credits)

General Education Requirements **24 cr.**

Core Requirements **42 cr.**

CEN 201, ENG 201, ENG 202, MEN 210, MAT 213, MAT 215, MAT 224, MAT 235, MAT 324, MAT 326, MAT 335, CHM 211, PHS 212, PHS 213.

Major Requirements **58 cr.**

CSC 212, CSC 213, CSC 312, EEN 201, EEN 202, EEN 203, EEN 210, EEN 220, EEN 221, EEN 311, EEN 312, EEN 324, EEN 330, EEN 331, EEN 340, EEN 350, EEN 352, EEN 360, EEN 370, EEN 416, EEN 571.

Technical Electives **23 cr.**

Students should complete 23 credits of approved technical electives in EEN and CSC courses including two elective laboratories.

Year 3 Technical Electives (1 EEN course and 1 EEN/CSC course): CSC 313, CSC 318, CSC 387, EEN 315, EEN 322, EEN 326, EEN 327, EEN 344.

Year 4 Technical Electives (4 EEN and 1 EEN/CSC course):

One course from the Electronics pool: EEN 411, EEN 412, EEN 413, EEN 421, EEN 422, EEN 426, EEN 455, EEN 523.

One course from the Electromagnetics pool: EEN 430, EEN 431, EEN 432, EEN 433, EEN 435, EEN 436, EEN 437, EEN 534.

Two courses from the Power and Control pool: EEN 353, EEN 355, EEN 356, EEN 357, EEN 451, EEN 453, EEN 455, EEN 457, EEN 458, EEN 461.

One course chosen from the above areas or from the following courses:

(Communication Pool): EEN 342, EEN 443, EEN 545, EEN 546, EEN 548.

(Signal Processing Pool): EEN 473, EEN 480, EEN 583, EEN 585.

(Computer Science Pool): CSC 414, CSC 425, CSC 426.

Technical Elective Lab. 1 courses: EEN 325, EEN 328, EEN 363, EEN 365, EEN 462.

Technical Elective Lab. 2 courses: EEN 439, EEN 444, EEN 456, EEN 459, EEN 481.

Students can substitute practical training (EEN 370) for two technical elective courses taken in Summer of Year 3 if desired. These electives contain a significant design component and include: EEN 315, EEN 326, EEN 355, EEN 412, EEN 413, EEN 430, EEN 431, EEN 435, EEN 457, EEN 458 or a Department approved course.

Free Elective **3 cr.**

This elective is chosen by the students according to their interests in broadening their knowledge. It can be any course offered by the university provided that it is of Sophomore level (200 level) or above.

Bachelor of Engineering in Electrical Engineering
Suggested Program (150 Credits)

Year 1

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ENG | 201 | Introduction to Engineering | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CEN | 201 | Engineering Mechanics | 3 cr. |
| ENG | 202 | Computers & Engineering | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| PHS | 212 | Electricity & Magnetism | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 324 | Mathematics for Engineering | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Year 2

Fall Semester II (16 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CSC | 212 | Program Design and Data Abstraction I | 3 cr. |
| EEN | 201 | Circuits Analysis I | 3 cr. |
| EEN | 220 | Introduction to Logic Design | 3 cr. |
| EEN | 221 | Logic Design Laboratory | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| PHS | 213 | Modern Physics | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 213 | Program Design and Data Abstraction II | 3 cr. |
| EEN | 202 | Circuits Analysis II | 3 cr. |
| EEN | 203 | Circuits Laboratory | 1 cr. |
| EEN | 210 | Electronic Circuits I | 3 cr. |
| MAT | 335 | Partial Differential Equations | 3 cr. |
| MEN | 210 | Thermodynamics I | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 312 | Computer Architecture | 3 cr. |
| MAT | 326 | Probability and Statistics for Engineers | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Year 3

Fall Semester III (16 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| EEN | 311 | Electronic Circuits II | 3 cr. |
| EEN | 312 | Electronic Circuits Laboratory | 1 cr. |
| EEN | 324 | Microprocessor System Design | 3 cr. |
| EEN | 330 | Electromagnetics I | 3 cr. |
| EEN | 340 | Signals & Systems | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|---------|-----|--------------------------|-------|
| EEN/CSC | — | Technical Elective 1 | 3 cr. |
| EEN | — | Technical Elective 2 | 3 cr. |
| EEN | — | Technical Elective lab 1 | |
| EEN | 331 | Electromagnetics II | 3 cr. |
| EEN | 350 | Energy Conversion | 3 cr. |
| EEN | 360 | Modern Control Systems | 3 cr. |

Summer Semester III (6 Credits)

| | | | |
|-----|-----|---|-------|
| EEN | 370 | Practical Training or 2 EE Design Electives | 6 cr. |
|-----|-----|---|-------|

Year 4**Fall Semester IV (16 Credits)**

| | | | |
|-----|-----|-------------------------------|-------|
| EEN | — | Technical Elective 3 | 3 cr. |
| EEN | — | Technical Elective 4 | 3 cr. |
| EEN | 352 | Energy Conversion Laboratory | 1 cr. |
| EEN | 416 | Solid State Devices | 3 cr. |
| EEN | 571 | Engineering Project | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester IV (16 Credits)

| | | | |
|---------|---|-------------------------------|-------|
| EEN | — | Technical Elective 5 | 3 cr. |
| EEN | — | Technical Elective 6 | 3 cr. |
| EEN/CSC | — | Technical Elective 7 | 3 cr. |
| EEN | — | Technical Elective Lab 2 | 1 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Electrical Engineering and Computer and Communication Engineering Courses

EEN 201 Circuits Analysis I (3.0); 3 cr. Passive elements. Circuits laws. Node and mesh analysis. Introduction to ideal operational amplifier circuits. Energy storage elements. RC, RL and RLC circuits. Forced and natural response. *Prerequisite:* ENG 201, *Corequisites:* PHS 212 and MAT 235.

EEN 202 Circuits Analysis II (3.0); 3 cr. Analysis of AC networks. Fourier and Laplace analysis. Frequency domain circuit analysis. Bode plots. Driving point and network transfer functions. Synthesis and design of first and second order linear time invariant circuit systems. Two port networks. One-phase and polyphase networks. *Prerequisite:* EEN 201.

EEN 203 Circuits Laboratory (0.2); 1 cr. Introduction to circuit laboratory instruments, Ohm's, Kirchhoff's laws. Mesh, Nodal, Superposition, Thevenin's. RC, RL, RLC networks, operational amplifiers. *Corequisite:* EEN 202.

EEN 205 Electric Circuits (3.0); 3 cr. Fundamentals of electric circuits. Resistive circuit techniques and methods of analysis. Introduction to operational amplifiers. AC network analysis. Sinusoidal frequency response. Transient analysis. AC power and transformers. Polyphase systems. Not open to EE and CCE students. *Corequisite:* PHS 212.

EEN 206 Electronics (3.0); 3 cr. Semiconductor theory. Diodes and applications. Transistor fundamentals. Transistor amplifiers

and switches. Operational amplifiers. Digital Logic circuits. Digital Systems. Principles of electromechanics. Introduction to electric machines. Not open to EE and CCE students. *Prerequisite:* EEN 205.

EEN 207 Instrumentation and Circuits Laboratory (0.2); 1 cr. Measuring equipment such as voltmeter, ammeter, ohmmeter, function generator, and oscilloscope. Experiments in circuits, electronics, digital circuits, electronic transducers and machines. Not open to EE and CCE students. *Prerequisite:* EEN 206.

EEN 210 Electronic Circuits I (3.0); 3 cr. Properties, operation, and biasing of pn junction diodes, bipolar junction and field-effect transistors. Large and small signal models and their applications. Analog signal amplification. Op amp applications. *Corequisite:* EEN 202.

EEN 220 Introduction to Logic Design (3.0); 3 cr. Binary and non-binary systems. Boolean algebra. Logic gates. Logic minimization, combinational circuits, sequential circuits, flip-flops, synthesis of synchronous sequential circuits. PLDs (ROM, PLA, PAL). *Prerequisite:* ENG 202.

EEN 221 Logic Design Laboratory (0.2); 1 cr. Experiments with basic Logic gates, combinational network design, sequential network design. Designing with counters, registers, decoders, multiplexers, and adders. *Corequisite:* EEN 220.

EEN 311 Electronic Circuits II (3.0); 3 cr. Differential amplifiers. Frequency response of amplifiers. Concepts of feedback. Audio amplifiers. Concept of active filters. *Prerequisite:* EEN 210.

EEN 312 Electronic Circuits Laboratory (0.2); 1 cr. Experiments based on EEN 210 and EEN 311. Introduces the practical applications of analog circuits, including transistor and diode circuits, operational amplifiers applications, simple amplifiers, filters, and oscillators. *Prerequisite:* EEN 203, *Corequisite:* EEN 311.

EEN 315 Simulation and Design Tools in Electrical and Computer Engineering (3.0); 3 cr. Introduction to circuit simulation tools such as Orcad/Pspice. Introduction to engineering applications of Matlab and other engineering software packages. Design examples from circuits, electronics, and signal processing. *Prerequisite:* EEN 202.

EEN 322 Digital Integrated Circuits (3.0); 3 cr. Properties and definitions of digital ICs. Basic logic circuit families: TTL, CMOS, dynamic CMOS, BiCMOS, ECL, and GaAs; with emphasis on CMOS digital logic. Oscillators, Schmitt Trigger. *Prerequisites:* EEN 220 and EEN 311.

EEN 324 Microprocessor System Design (3.0); 3 cr. Microprocessor internal architecture. Registers, CPU, memory organization. Instructions, execution and timing. Interfacing with peripherals. Interrupts. Designing and Interfacing with state of the art microprocessors. Assembly language programming. *Prerequisite:* CSC 312.

EEN 325 Microprocessor Laboratory (0.2); 1 cr. Experiments and design project related to the course EEN 324. *Prerequisite:* EEN 221, *Corequisite:* EEN 324.

EEN 326 Microcontroller System (3.0); 3 cr. Highly integrated processors and peripherals on a single microchip. System architecture. Embedded and real-time system specification and mapping this hardware. Machine language programming for monitoring and control applications. Includes a design project. *Prerequisite:* EEN 324.

EEN 327 Advanced Logic Design (3.0); 3 cr. Combinational and sequential network design. State machine SM charts, Asynchronous sequential Networks. State Assignment and Flow Tables. Hazards, PLDs and hardware

description languages (HDL). *Prerequisite:* EEN 220.

EEN 328 Advanced Digital Design laboratory (0.2); 1 cr. Designing combinational and sequential digital circuits with an FPGA board (Xilinx, Alterra or similar) and a CAD tool (HDL). *Prerequisite:* EEN 327.

EEN 330 Electromagnetics I (3.0); 3 cr. Sinusoidal steady state and transient analysis of transmission lines. Static electric and magnetic fields. Laplace and Poisson's equations. Resistance, inductance and capacitance. Conductors, dielectrics and magnetic materials. Polarization and magnetization. Electromagnetic devices. Bioelectromagnetics. *Prerequisites:* PHS 212 and MAT 335.

EEN 331 Electromagnetics II (3.0); 3 cr. Maxwell's equations. Plane wave propagation reflection and transmission in lossless and lossy media. Normal and oblique incidence. Waveguides. Impedance matching. Electromagnetic effects in high-speed circuits. Computer simulation. *Prerequisite:* EEN 330.

EEN 340 Signals and Systems (3.0); 3 cr. Basic concepts in linear system theory. Analyzing continuous and discrete signals and linear systems. Superposition, convolution and impulse response. Sampling theorem. Spectral analysis. Fourier series and transforms. Laplace transforms. Transfer functions. Bode plots and stability. Discrete-Time Fourier transform. Introduction to z-transforms. *Prerequisites:* EEN 202 and MAT 335.

EEN 342 Random Signals and Noise (3.0); 3 cr. Probability and random variables, density functions, statistics of one and two random variables, estimation theory, hypothesis testing. Random processes, correlation and cross-correlation functions. Applications to filtering. *Prerequisites:* EEN 340 and MAT 326.

EEN 344 Communication Systems I (3.0); 3 cr. Mathematical analysis and signal processing used in analog communication systems. Spectral analysis. Signal transmission. Amplitude, phase, frequency and pulse modulations. Modulation and demodulation techniques. Frequency and time multiplexing. Application to radio and television. Random processes and noise. Signal-to-noise ratios in analog communication systems. *Prerequisites:* EEN 340 and MAT 326.

EEN 350 Energy Conversion (3.0); 3 cr. Magnetic materials. Fundamental operation of transformers, DC and AC machines. Design considerations of rotating machinery. *Prerequisite:* EEN 202, *Corequisite:* EEN 331.

EEN 352 Energy Conversion Laboratory (0.2); 1 cr. Experiments with single phase and three-phase transformers. DC and AC machines. *Prerequisite:* EEN 350.

EEN 353 Electric Machines (3.0); 3 cr. Operation of DC and AC machines. Control of electric machines. Induction motor, stepper motor. *Prerequisite:* EEN 350.

EEN 355 Fundamentals of Power Engineering (3.0); 3 cr. Steady state and transient operation of power transmission lines. Overhead and underground cable types and ratings. Resistance, inductance and capacitance of transmission lines. Power system modeling. *Prerequisites:* EEN 330 and EEN 350

EEN 356 Power System Analysis (3.0); 3 cr. Power system modeling. Load flow studies using computer tools. Economic operation. Symmetrical and asymmetrical short-circuit studies. *Corequisite:* EEN 355.

EEN 357 Power Plant Engineering (3.0); 3 cr. Generation of electric power. Overview of the different types of power plants. Investigation of new and environment-friendly methods for power generation. *Prerequisite:* EEN 355.

EEN 360 Modern Control Systems (3.0); 3 cr. Mathematical models for control systems. State variables and transfer functions representations. System performance and design criteria. Stability, sensitivity, time response of linear control systems. Use of Hurwitz, root-locus, Nyquist and Bode methods for analysis and synthesis of linear systems. *Prerequisite:* EEN 340.

EEN 363 Instrumentation Laboratory (0.2); 1 cr. Input and output transducers. Position, temperature, light intensity, force, speed and sound measurements and display. Introduction to PCB design techniques. Design project. *Prerequisite:* EEN 312.

EEN 365 Programmable Logic Control Laboratory (0.2); 1 cr. Programmable control applications. Advanced PLC control techniques using pneumatic sequencer. Control of an automation system. *Prerequisite:* EEN 324.

EEN 370 Practical Training, 6 cr. Department approved practice in industry in one of the areas of Electrical, Computer and Communication Engineering. A report is required. *Prerequisite:* Senior Standing.

EEN 411 Integrated Circuit Fabrication Processes (3.0); 3 cr. The fundamental principles of integrated circuit fabrication processes, physical and chemical models for crystal growth, oxidation, ion implantation, etching, deposition, lithography, and back-end processing. *Prerequisites:* EEN 331 and PHS 213.

EEN 412 Analog Integrated Circuit Design (3.0); 3 cr. Analysis and design of MOS analog integrated circuits, emphasizing quantitative measures of performance, figures of merit, and circuit limitations. Evaluation of circuit performance by means of hand calculations and computer-aided circuit simulations. Design of operational amplifiers, broadband amplifiers, biasing circuits, and voltage references. *Prerequisite:* EEN 311.

EEN 413 Analog Filter Design (3.0); 3 cr. Systematic analysis and design for active filters. Bilinear transfer function. Cascade design. The Biquad circuit. Filter approximations and synthesis techniques. Monolithic integrated filters. Computer simulation verification. *Prerequisite:* EEN 311.

EEN 416 Solid State Devices (3.0); 3 cr. The fundamentals of carrier generation, transport, recombination, and storage in semiconductors. The physical principles of operation of the p-n junction, metal semiconductor contact, bipolar junction transistor, MOS capacitor, MOS and junction field-effect transistors. *Prerequisites:* PHS 213 and EEN 331.

EEN 421 Introduction to VLSI Design (3.0); 3 cr. Large-scale MOS Design. Topics: MOS transistors, static and dynamic MOS gates, MOS circuit fabrication, design rules, resistance and capacitance extraction, power and delay estimation, scaling, MOS combinational and sequential logic design, registers and clocking schemes, memory and data-path. Elements of computer-aided circuit analysis, synthesis, and layout techniques. *Prerequisite:* EEN 322.

EEN 422 Testing and Fault Tolerance of Digital Systems (3.0); 3 cr. The fundamental principles of testing computer systems and designing for testability. Failure and fault models. Deterministic and probabilistic

techniques of test generation and testing. Design for testability. Basic considerations in the design of reliable computing systems. Concurrent checking techniques. Redundancy and evaluation methods. *Prerequisite:* EEN 327.

EEN 426 Biomedical Engineering (3.0); 3 cr. Design consideration for clinical and health care devices. Design of biomedical devices. Involves analog, digital and microprocessor / microcontroller based designs. Design of monitoring devices. *Prerequisites:* EEN 311 and EEN 324.

EEN 430 Antenna Design for Wireless Communications (3.0); 3 cr. Fundamentals of radiation from antennas. Wire antennas such as monopole, dipole and loop antennas. Aperture antennas such horn and reflector antennas. Wideband antennas. Antenna arrays. Application to cellular systems. Course includes design project. *Prerequisite:* EEN 331.

EEN 431 Microwave Circuit Design (3.0); 3 cr. Coverage of passive and active microwave devices including transformers, couplers, resonators, circulators, oscillators and amplifiers. Course includes project consisting of computer-aided design of a microwave circuit. *Prerequisites:* EEN 311 and EEN 331.

EEN 432 Numerical Methods for Wireless Propagation (3.0); 3 cr. Basic coverage of the main numerical techniques in electromagnetics. Topics include the Finite Difference Time Domain (FDTD) and Finite Element (FE) methods. Use of a high level programming language such as Fortran, C, Pascal or Matlab to simulate radiation and propagation of waves in a wireless communication environment. *Prerequisite:* EEN 331.

EEN 433 Wave Propagation for Wireless Communications (3.0); 3 cr. Prediction methods for tropospheric, ground wave and ionospheric propagation. Propagation, diffraction and reflection in cellular communication systems and wireless local area networks. *Prerequisite:* EEN 331.

EEN 435 Electromagnetic Compatibility (3.0); 3 cr. Fundamentals of Electromagnetic Compatibility (EMC) are covered including regulations, grounding, shielding and cross talk. Modeling and reduction techniques of noise and interference phenomena in electrical circuits. Effect of radiation on the human body. Design of electronic devices to minimize undesired

radiation and susceptibility to electromagnetic emissions. *Prerequisite:* EEN 331.

EEN 436 Optical Fibers (3.0); 3 cr. Waveguide analysis of optical fibers. Fiber losses. Sources and detectors. Optical fiber link design. *Prerequisite:* EEN 331.

EEN 437 Lasers (3.0); 3 cr. Wave equation and ray optics. Optical matrices. Diffraction theory. Fourier optics, holography, polarization. Semiconductor lasers. *Prerequisite:* EEN 331.

EEN 439 Electromagnetics Laboratory (0.2); 1 cr. Properties of magnetic materials. Electromagnetic devices. Transmission lines. Impedance matching. Antennas and microwave circuits. Includes design project and computer simulations. *Prerequisite:* EEN 331.

EEN 443 Communication Systems II (3.0); 3 cr. Digital transmission techniques with application to computer and space communications. Digital modulation. Equalizers. Baseband data transmission. Digital switching. Multiplexing. Design and detection of digital signals for low error rate. Forward and feedback transmission techniques. Matched filters. Modems, block and convolution coding. *Prerequisite:* EEN 344.

EEN 444 Communication Systems Laboratory (0.2); 1 cr. Introduction to Amplitude Modulation. Fault detection in DSB and SSB systems, FM modulators and demodulators. Analog to Digital conversion A/D, Digital to Analog conversion D/A, Encoding/Decoding. Pulse Modulation, PAM, PPM, PDM. Coherent detection of signal in noise. Frequency Shift Keying (FSK). *Corequisite:* EEN 443.

EEN 451 Power System Protection and Switchgear (3.0); 3 cr. Relays, circuit breakers and fuses for power system protection. Protection of machines, transformers and lines. Instrument transformers. *Prerequisite:* EEN 356.

EEN 453 Electric Drives (3.0); 3 cr. Introduction to elements of drive systems, characterization of mechanical loads, requirements of electric drive systems, dc drives with various power electronics based conversion sources, dynamic equations and closed loop control of dc drives, induction motor drives, ac controller, slip-energy recovery, volts/Hz control, synchronous motor drives, permanent magnet motors, reluctance motors. *Prerequisites:* EEN 210 and EEN 350.

EEN 455 Power Electronics (3.0); 3 cr. Switching power supplies. AC power controllers. Controlled rectifiers. DC choppers and DC-AC converters. Bridge structure inverters. *Prerequisites:* EEN 210 and EEN 350.

EEN 456 Power Electronics Laboratory (0.2); 1 cr. Experiments based on EEN 455. *Corequisite:* EEN 455.

EEN 457 Industrial Electrification (3.0); 3 cr. Lighting design for residential and industrial facilities. Emphasis on latest lighting technologies. Cable types and sizing. Motor control centers. Includes design project. *Prerequisite:* EEN 350.

EEN 458 Computer Methods for Power System Analysis and Design (3.0); 3 cr. Use of computer software to simulate power flow and other power engineering problems. *Prerequisite:* EEN 356.

EEN 459 Power Engineering Laboratory (0.2); 1 cr. Experiments and simulations in power engineering and power system analysis. *Prerequisite:* EEN 355.

EEN 461 Digital Control (3.0); 3 cr. Sampling and data reconstruction in computer control systems. Z-transforms and state equations to describe discrete and mixed data systems. Analysis of digital feedback systems using frequency domain techniques and state space techniques. Non-linear digital feedback systems. *Prerequisite:* EEN 360.

EEN 462 Control Systems Laboratory (0.2); 1 cr. Laboratory based on EEN 360 and EEN 461. Analog and digital control systems, PID control, PLC systems. *Prerequisite:* EEN 461.

EEN 473 Special Topics in Electrical Engineering (3.0); 3 cr. Material includes coverage of recent developments in Electrical Engineering that are needed to update students on the latest technologies. Department determines topics to be covered and *prerequisites* when offered. Open to EE and CCE students.

EEN 480 Discrete-Time Signal Processing (3.0); 3 cr. Digital signal processing of continuous and discrete signals. Discrete Fourier sampling and reconstruction. Design and analysis of digital filters. *Prerequisite:* EEN 340.

EEN 481 Signal Processing Laboratory (0.2); 1 cr. Digital filtering techniques. Architectural

feature of single-chip DSP processors. Design project. *Prerequisite:* EEN 480.

EEN 523 Neural Networks (3.0); 3 cr. Principles of neural networks, architecture and circuit implementations. *Prerequisites:* MAT 235 and MAT 326.

EEN 534 Radar Systems and Remote Sensing (3.0); 3 cr. Operation of a radar system including antennas, circuitry and wave propagation. Remote sensing and mapping of the earth. Ground penetrating radar, intelligent vehicle highway system. Aircraft navigation. *Prerequisite:* EEN 344 and EEN 430.

EEN 545 Optical Communication (3.0); 3 cr. Fundamental of lightwave communication systems. Propagation of waves in dielectric thin films and cylindrical guides. Bit limitation rate due to dispersion and multimoding step-index and multi-index fibers. Switching and modulation by integrated optics techniques. *Prerequisites:* EEN 331 and EEN 443.

EEN 546 Algebraic Coding and Information Theory (3.0); 3 cr. Information theory and its relation to statistics. Kolmogorov complexity, entropy and inference. Shannon theory of communication. Source coding for noisy channels. Capacity theorems for multiple user channels. *Prerequisite:* EEN 443.

EEN 547 Statistical Communication Theory (3.0); 3 cr. Concepts of probability and random process theory necessary for advanced study of communications. Stochastic control. Detection and estimation problems. *Prerequisite:* EEN 443.

EEN 548 Wireless Communications (3.0); 3 cr. Introduction to wireless systems and cellular principles, modulation techniques for mobile radio, speech and channel coding, multiple access techniques, applications to wireless systems. *Prerequisites:* EEN 331 and EEN 443.

EEN 571 Engineering Project; 3 cr. Design project approved by a faculty advisor. Includes report, final presentation. *Prerequisites:* Senior Standing and ENL 230.

EEN 583 Advanced Signal Processing (3.0); 3 cr. Advanced techniques in signal processing. Windowing, Short Time Fourier transform. Correlation and spectral estimation. Non-stationary signals. Time/frequency analysis STFT. The wavelet transform. *Prerequisite:* EEN 480.

EEN 585 Biomedical Signal Processing (3.0); 3 cr. Analysis of biological signals. Random signals. Windowing with Fourier transform, z-transform, and wavelet transform. Signal

processing techniques applied to vital signs signals such as: ECG, EEG, and EMG. High resolution CG and signal averaging.
Prerequisite: EEN 480.

Note: The following table shows the changes in course numbering which are effective as of Fall 2007.

| Old Number | New Number |
|------------|------------|
| ENG 101 | ENG 201 |
| ENG 102 | ENG 202 |
| EEN 423 | EEN 523 |
| EEN 434 | EEN 534 |
| EEN 445 | EEN 545 |
| EEN 446 | EEN 546 |
| EEN 447 | EEN 547 |
| EEN 448 | EEN 548 |
| EEN 471 | EEN 571 |
| EEN 483 | EEN 583 |
| EEN 485 | EEN 585 |

DEPARTMENT OF MECHANICAL ENGINEERING

Chairperson: *Dr. Michel El-Hayek*

Secretary: *Mrs. Marise Abboud Khalil*

Professor Emeritus

Assaf, Walid, Ph.D., 1965, Iowa State University, USA

Associate Professor

El-Hayek, Michel, Docteur Européen, 1997, Faculté Polytechnique de Mons, Belgium
Sciences Appliquées

Assistant Professors

Asmar, Ghazi, Ph.D., 1998, University of Missouri, Columbia, USA
Mechanical and Aerospace Engineering

Francis, Francis, Ph.D., 2003, University of New South Wales, Sydney, Australia

Laboratory Assistant

Daou, Wissam, B.E., 2000, NDU, Lebanon
Mechanical Engineering

The Degree of Bachelor of Engineering in Mechanical Engineering

This program is designed to give students the background needed to define and solve problems related to the conception and construction of mechanical systems. It is concerned with all forms of power generation, the design of machines, control, and material handling.

Admission Requirements

In addition to the University's general admission requirements, mechanical engineering transfer students may be accepted to the Faculty of Engineering provided they have a grade-point average of at least 2.0/4.0 in a minimum of 12 credits of transferable courses. The number of transfer credits is determined by the Department of Mechanical Engineering.

Residency Requirements

A transfer candidate with a bachelor degree in mechanical engineering from an accredited institution is required to successfully complete a minimum of 32 credits of upper-division course work including a senior project. A transfer student without a bachelor degree in mechanical engineering is required to successfully complete a minimum of 45 credits of upper-division course work including 3 credits of project work.

Full time students entering the mechanical engineering program of first year standing must complete the listed program within eight years of the date of enrollment in the program.

Course Load Requirements

In general, students are not allowed to carry more than 17 credits per term, nor more than 7 credits in a summer session unless otherwise specified in their suggested program. Restrictions may be imposed on students whose overall grade-point average is less than 2.3/4.0. Upon the approval of the advisor, a student whose overall grade-point average is 3.2/4.0 or higher may be permitted to carry a maximum load of 18 credits per term.

Students in their last semester may petition to take up to 19 crs. given they are in good academic standing and they satisfy the minimum residency requirement for the major.

Graduation Requirements

To receive the degree of Bachelor of Engineering in Mechanical Engineering, a student must complete a total of 150 credits with an overall grade-point average of at least 2.0/4.0. In addition, all major requirement courses and mechanical engineering electives must be successfully completed with a minimum grade of C-. These 150 credits are divided into:

Degree Requirements (150 credits)

General Education Requirements **24 cr.**

Core Requirements **33 cr.**

CHM 211, PHS 203, PHS 212, EEN 205, EEN 206, ENG 101, ENG 102, CSC212, MAT 215, MAT 235, MAT 335.

Major Requirements **72 cr.**

CEN 100, CEN 170, CEN 200, CSC 270, MAT 213, MAT 224, MEN 200, MEN 201, MEN 202, MEN 210, MEN 211, MEN 302, MEN 310, MEN 320, MEN 321, MEN 325, MEN 330, MEN 340, MEN 360, MEN 399, MEN 401, MEN 430, MEN 431, MEN 435, MEN 437, MEN 440, MEN 460.

Mechanical Engineering Electives **15 cr.**

Choose any five courses from the following pool: MEN 400, MEN 410, MEN 439, MEN 500, MEN 501, MEN 502, MEN 503, MEN504, MEN 505, MEN 507, MEN 510, MEN 515, MEN 517, MEN 520, MEN 521, MEN 525, MEN 530, MEN 534, MEN 540, MEN 550, MEN 580, MEN 590, MAT 339.

Free Electives **6 cr.**

Choose any two courses of sophomore level or higher offered by the university.

Bachelor of Engineering in Mechanical Engineering
Suggested Program (150 Credits)

Year I

Fall Semester I (16 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| CEN | 100 | Statics | 3 cr. |
| CEN | 170 | Engineering Graphics | 1 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| ENG | 201 | Introduction to Engineering | 3 cr. |
| ENG | 202 | Computers & Engineering | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| MEN | 201 | Engineering Mechanics: Dynamics | 3 cr. |
| MEN | 202 | Mechanics of Materials I | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| CSC | 212 | Program Design and Data Abstraction I | 3 cr. |
| PHS | 203 | General Physics III | 3 cr. |

Summer Semester I (9 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 230 | English in the Workplace | 3 cr. |
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Year II

Fall Semester II (16 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| MEN | 200 | Science of Materials | 3 cr. |
| MEN | 210 | Thermodynamics I | 3 cr. |
| CEN | 200 | Mechanics of Materials Laboratory | 1 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| CHM | 211 | Principles of Chemistry | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| MEN | 211 | Thermodynamics II | 3 cr. |
| MEN | 320 | Fluid Mechanics I | 3 cr. |
| EEN | 205 | Electric Circuits | 3 cr. |
| MAT | 335 | Partial Differential Equation | 3 cr. |
| CSC | 270 | Computer Aided Engineering Design | 1 cr. |
| PHS | 212 | Electricity and Magnetism | 3 cr. |

Summer Semester II (9 Credits)

| | | | |
|---|---|-------------------------------|-------|
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |
| — | — | Free Elective | 3 cr. |

Year III

Fall Semester III (16 Credits)

| | | | |
|-----|-------------|--|-------|
| MEN | 302 | Mechanics of Materials II | 3 cr. |
| MEN | 321 | Fluid Mechanics II | 3 cr. |
| MEN | 330 | Mechanical Vibrations | 3 cr. |
| EEN | 206 | Electronics | 3 cr. |
| REG | 212/ 213 | General Education Requirement Religion | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| MEN | 310 | Heat Transfer | 3 cr. |
| MEN | 325 | Thermo/ Fluid Laboratory | 1 cr. |
| MEN | 340 | Manufacturing Processes | 3 cr. |
| MEN | 430 | Theory of Machines | 3 cr. |
| MEN | 401 | Introduction to Mechatronics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Semester III (6 Credits)

| | | | |
|-----|-----|--|-------|
| MEN | 399 | Practical Training in Mechanical Engineering or 2 ME Electives | 6 cr. |
|-----|-----|--|-------|

Year IV**Fall Semester IV (16 Credits)**

| | | | |
|-----|-----|---|-------|
| MEN | 431 | Mechanical Engineering Laboratory | 1 cr. |
| MEN | 435 | Automated Controls | 3 cr. |
| MEN | 437 | Mechanical Design | 3 cr. |
| MEN | 440 | Computer Aided Design and Manufacturing | 3 cr. |
| MEN | — | ME Elective | 3 cr. |
| MEN | — | ME Elective | 3 cr. |

Spring Semester IV (15 Credits)

| | | | |
|-----|-----|----------------|-------|
| MEN | 460 | Senior Project | 3 cr. |
| MEN | — | ME Elective | 3 cr. |
| MEN | — | ME Elective | 3 cr. |
| MEN | — | ME Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Mechanical Engineering Courses

MEN 200 Science of Materials (3.0); 3 cr. Material microstructures, dislocations and defects. Alloying and analysis of phase diagrams. Mechanical properties of metals, polymers, and composites. Heat treatment of metals, elastic and plastic behavior of materials, strain hardening, and fracture.

MEN 201 Engineering Mechanics: Dynamics (3.0); 3 cr. Description of force, position, velocity and acceleration in fixed and moving reference frames. Kinematics and kinetics of particles, of collections of particles and of rigid bodies. Energy and momentum concepts. *Prerequisite:* CEN 100.

MEN 202 Mechanics of Materials I (3.0); 3 cr. Equilibrium, force and moment resultants. Stress/strain concepts, generalized Hooke's law, classification of material behavior. Axial loads, torsion of rods and circular bars. Pressure vessels. Bending and shear stresses in beams. Analysis of Statically determinate and indeterminate structures. Stress transformation, combined loading. *Prerequisite:* CEN 100.

MEN 210 Thermodynamics I (3.0); 3 cr. Fundamentals of engineering thermodynamics: properties and behavior of pure substances, concepts of work and heat, systems and control

volume analyses, first law, second law, entropy and entropy production, introduction to availability, Carnot cycle. *Prerequisite:* PHS 203 or CEN 201

MEN 211 Thermodynamics II (3.0); 3 cr. Thermodynamic cycles: steam and gas power systems, refrigeration and heat pump systems. Compressible substances: thermodynamic properties, general thermodynamic relations, virial equations of state. Introduction to psychrometrics. Introduction to combustion and equilibrium calculation. *Prerequisite:* MEN 210.

MEN 302 Mechanics of Materials II (3.0); 3 cr. Analysis of more complicated problems in stress and strain. Energy methods, torsion of non-circular members. Shear center concept. Curved beams, thick cylinders and rotating disks. Contact stresses. *Prerequisites:* MEN 102, MAT 235.

MEN 310 Heat Transfer (3.0); 3 cr. Mechanisms of heat transfer. Steady and transient conduction: one and multiple dimensions, approximate and exact solution procedure, introduction to numerical methods. Forced and free convection. Applications to heat exchanger design and performance evaluation.

The Introduction to thermal radiation.
Corequisite: MEN 321.

MEN 320 Fluid Mechanics I (3.0); 3 cr. Fundamentals of fluid mechanics: Fluid properties, fluid statics and kinematics, inviscid flow, potential flow, simple viscous incompressible flow. Flow analyses: Control volume analysis, differential analysis, dimensional analysis and similitude. Flow equations: continuity, momentum and energy equations. *Prerequisites:* MEN 210, MAT 235.

MEN 321 Fluid Mechanics II (3.0); 3 cr. Incompressible and compressible flows: laminar/turbulent flows, pipe flow, boundary layers, lift and drag, introduction to turbulence, elementary gas dynamics. Unsteady flow phenomena. Introduction to centrifugal and axial flow machinery: pumps, fans, hydraulic turbines, and torque converters. *Prerequisite:* MEN 320.

MEN 325 Thermo/Fluid Laboratory; 1 cr. Experiments related to thermofluid engineering. Topics include laminar/turbulent flows, piping systems, transient flow phenomena, heat transfer modes, pressure and temperature measurement, data acquisition. *Corequisites:* MEN 310, MEN 321.

MEN 330 Mechanical Vibrations (3.0); 3 cr. Free and forced vibrations for undamped and viscously damped single-degree-of-freedom systems. Conservation of energy approach and Rayleigh's method. Vibration of multi-degree-of-freedom systems, eigenvalue problems and mode shapes. Modal analysis. *Prerequisites:* MEN 201, MEN 202, MAT 235

MEN 340 Manufacturing Processes (3.0); 3 cr. Fundamentals and technologies used in processing various industrial materials: casting, forging, machining, metal-sheet processing, joining techniques, etc. *Prerequisites:* MEN 200, MEN 360.

MEN 360 Engineering Graphics II (1.0); 1 cr. Details and assembly drawing of machine parts: shafts, bearings, fasteners, keys, springs, gears, cams, joining techniques. Standards and tolerances. *Prerequisite:* CEN 170

MEN 399 Practical Training in Mechanical Engineering; 6 cr. Two-month-training in a mechanical engineering environment in which the student is exposed to different aspects of mechanical engineering practice and equipment: design, construction, testing, maintenance, etc. *Prerequisite:* Senior standing.

MEN 400 Mechanics of Composite Materials (3.0); 3 cr. Introduction to composite materials. Lamina and laminate mechanical properties. Micromechanics. Mechanical and hygrothermal behavior of laminae and laminates. Lamina and laminate strength theories. *Prerequisite:* MEN 302.

MEN 401 Introduction to Mechatronics (3.0); 3 cr. Analysis of intelligent electro-mechanical systems: electronics and logics, microprocessors; electro-mechanical devices, programmable logic controllers, sensors and transducers. Introduction to micro-electromechanical systems. *Prerequisites:* ENG 202, EEN 206.

MEN 410 Internal Combustion Engines (3.0); 3 cr. Analysis of internal combustion engines: dynamics, thermodynamics, combustion, friction and wear, and other factors affecting power, efficiency and emissions. Design and operating characteristics of different types of engines. *Prerequisites:* MEN 310.

MEN 430 Theory of Machines (3.0); 3 cr. Kinematics of machinery: linkages, cams, gears, bearings, belts, etc. Static and dynamic balancing and force analysis of machines. *Prerequisites:* MEN 201, MEN 360.

MEN 431 Mechanical Engineering Laboratory; 1 cr. Applications of mechanical engineering theories and design techniques to complex mechanical systems. Topics include air-conditioning and refrigeration, hydro-power generation, solar energy, combustion systems, pump systems, bearings, assembly processes, vibrations systems. *Prerequisite:* MEN 325.

MEN 435 Automated Controls (3.0); 3 cr. Feedback control design and analysis for linear dynamic systems with emphasis on mechanical engineering applications: transient and frequency response, stability, system performance, control modes, state space technique, introduction to digital control systems. *Prerequisites:* MEN 201, MAT 235.

MEN 437 Mechanical Engineering Design (3.0); 3 cr. Design of machine elements. System reliability. Interchangeability of mechanical devices. Stress-strain relationship in mechanical elements configuration. *Prerequisite:* MEN 302.

MEN 439 Engineering Instrumentations (3.0); 3 cr. Fundamentals of experimental methods, data acquisition and treatment, error analysis. Design and selection of measurement

tools used in mechanical engineering. *Prerequisite:* MEN 401.

MEN 440 Computer Aided Design and Manufacturing (3.0); 3 cr. Principles of computer aided design and manufacturing: design process, geometric modeling, design for assembly, design for manufacturability, design/manufacture interface, computer numerical control, product development, production planning and control, standards. *Prerequisites:* MEN 340, CSC 270.

MEN 460 Senior Project; 3 cr. A mechanical engineering project in which the student is exposed to the design process from concept through analysis to layout and report. Projects are proposed from the different areas of mechanical engineering and reflect the expertise of the instructing faculty. *Prerequisite:* Senior standing.

MEN 500 Energy Principles and Variational Methods in Mechanics (3.0); 3 cr. Calculus of Variations, virtual work and energy principles, stationary variational principles, Hamilton's principle, energy theorem of structural mechanics, Ritz method, weight residual methods, finite element method. *Prerequisite:* MEN 302.

MEN 501 Continuum Mechanics (3.0); 3 cr. Introductory course in the mechanics of continuous media. Basic concepts of stress, strain, constitutive relationships; conservation laws are treated using Cartesian tensor notation. Examples from both solid and fluid mechanics investigated. *Prerequisites:* MEN 302, MEN 321.

MEN 502 Theory of Elasticity (3.0); 3 cr. Stress and strain at a point. General equations of elasticity. Plane stress, plain strain problems; torsion of prismatic bars. Energy methods. *Prerequisite:* MEN 302.

MEN 503 Theory of Plates and Shells (3.0); 3 cr. Rectangular and circular plates. Variational methods in the analysis of plates and shells. Plates of unusual shape. Shear deformation effects. Large deformation analysis. Analysis of cylindrical shells. *Prerequisite:* MEN 302.

MEN 504 Theory of Elastic Stability (3.0); 3 cr. Buckling of Columns, frames and plates. Kinematic approach to stability. Large deflections. Energy approach to buckling. Plate and shell buckling. Inelastic buckling of

columns. Creep buckling. *Prerequisite:* MEN 302.

MEN 505 Theory of Plasticity (3.0); 3 cr. Plastic yield conditions and stress-strain relations. Behavior of elastic-perfectly plastic members. Plain strain in plastic members. *Prerequisites:* MEN 502.

MEN 507 Fracture Mechanics (3.0); 3 cr. Mechanics of flawed structure. Concepts include Griffith theory, Irwin analysis, energy analysis of cracked bodies, fracture toughness testing, plane strain, plane stress, transition temperature concepts, subcritical flaw growth. *Prerequisite:* MEN 302.

MEN 510 Energy Conversion (3.0); 3 cr. Methods and techniques used in energy conversion from thermal, hydraulic, solar, wind, geothermal, etc. to electrical energy, thermal powerplants, photovoltaic systems, fuel cells. *Prerequisite:* MEN 310.

MEN 515 Heating, Ventilating and Air-Conditioning (3.0); 3 cr. Design and analysis of HVAC systems and components, comfort, cooling and heating load calculations, piping and duct design, domestic hot and cold water system. Introduction to refrigeration. *Prerequisite:* MEN 310.

MEN 517 Solar Energy (3.0); 3 cr. Fundamentals of solar radiation, design and analysis of solar systems for both low and high temperature applications, passive and active solar thermal engineering, design of solar collectors, energy storage systems. *Prerequisite:* MEN 310.

MEN 520 Fluid Power Control (3.0); 3 cr. Fundamentals of fluid power technology: hydraulic fluids and system components like pumps, valves, motors, and cylinders; pneumatic systems, fluidic components. Design, analysis and control of fluid power circuits. *Prerequisite:* MEN 321.

MEN 521 Viscous Flow and Boundary Layers (3.0); 3 cr. Fundamentals of real flow phenomena: concepts of stress and strain and derivation of Navier-Stokes equations. Application to boundary layers, creeping flows and lubrication. Flow instabilities and turbulence. *Prerequisite:* MEN 321.

MEN 525 Combustion and Flame (3.0); 3 cr. Introduction to combustion processes; combustion thermodynamics and reaction

kinetics; combustion phenomena: ignition, quenching, detonation and deflagration; flame instabilities; diffusion and premixed flames; introduction to turbulent combustion.
Prerequisite: MEN 310.

MEN 530 Advanced Vibration Analysis (3.0); 3 cr. Advanced topics in vibration theory and its application to Mechanical Systems. Topics include vibration analysis of multi-degree of freedom, distributed and nonlinear systems, random vibration analysis, and vibration control.
Prerequisite: MEN 330.

MEN 534 Joining Processes: Welding, Soldering and Brazing (3.0); 3 cr. Analysis of various joining processes: mechanisms of surface bonding; welding metallurgy; effect of heat input on resulting microstructures; residual stresses and distortion; welding processes: MIG, TIG, Laser, electron beam, spot welding, resistance welding.
Prerequisite: MEN 340.

MEN 540 Robots and Manipulators (3.0); 3 cr. Concepts underlying the design and application of computer-controlled manipulators: Manipulator geometry, work volume, sensors, feedback control of manipulator linkages, kinematics, trajectory

planning, programming, robot system architecture, applications in mechanical engineering.
Prerequisites: MEN 430, MEN 435.

MEN 550 Computational Methods in Thermal and Fluid Mechanics (3.0); 3 cr. Physical and mathematical foundations of computational fluid mechanics and heat transfer with emphasis on applications: governing equations and mathematical approximations; partial differential and integral equations, discretization and solution methods, stability and convergence. Introduction to physical modeling of turbulence, combustion, and radiation.
Prerequisites: MEN 310, MAT 335, CSC 212.

MEN 580 Finite Elements Methods (3.0); 3 cr. The concepts and fundamentals of the finite element method with applications to problems in solid and fluid mechanics.
Prerequisite: MEN 202.

MEN 590 Mechanical Engineering Software (3.0); 3 cr. Development and utilization of software packages related to various areas in mechanical engineering, graphical user interface, CAD, mesh generators, solvers, post-processors.
Corequisites: MEN 550, MEN 580.

FACULTY OF HUMANITIES (FHUM)

Dr. Carol Kfouri, *Dean*

DEPARTMENT OF ENGLISH, TRANSLATION, AND
EDUCATION

Dr. Mary-Angela Willis, *Chairperson*

DEPARTMENT OF MASS COMMUNICATION

Dr. Joseph Ajami, *Chairperson*

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES

Dr. Mansour Eid, *Chairperson*

Freshman Arts Program

FACULTY DIRECTORY

Office of the Dean

Pink Building, 3rd Floor, Room 332
Tel: 09–218950/51/52 Extension 2423
e-mail: ckfourri@ndu.edu.lb

Department of English, Translation, and Education

Pink Building, 3rd Floor, Room 334
Tel: 09–218950/51/52 Extension 2426
e-mail: mwillis@ndu.edu.lb

Department of Mass Communication

Pink Building, 3rd Floor, Room 335
Tel: 09–218950/51/ 52 Extension 2427
e-mail: jajami@ndu.edu.lb

Department of Social and Behavioral Sciences

Pink Building, 3rd Floor, Room 337
Tel: 09–218950/51/52 Extension 2429
e-mail: sbs@ndu.edu.lb

FACULTY OF HUMANITIES

LIST OF FULL-TIME FACULTY MEMBERS

Professors

¹*Eid, Assad*, Doctorate, 1986, *Applied Linguistics and TEFL*, Université Saint-Joseph, Lebanon

¹*Oueijan, Naji*, Ph.D., 1985, *English Literature*, Baylor University, USA

¹*Rihani, Ameen A.*, Ph.D., 1996, *Bilingual Literature*, Lebanese University, Lebanon

¹*Sarru', Boulos*, Ph.D., 1979, *English and American Studies*, Indiana University, USA

Associate Professors

Abou-Chedid, Kamal, Ph.D., 1997, *Education*, Manchester University, UK

Ajami, Joseph, Ph.D., 1987, *Mass Communication*, Ohio University-Athens, USA

Alam, Edward, Ph.D., 1996, *Philosophy*, University of Utah, USA

Eid, Mansour, Doctorate, 1985, *Arabic Language and Literature*, Université Saint-Joseph, Lebanon

Fakih, Khalid, Ph.D., 1992, *Journalism*, University of Missouri, USA

Jahshan, Paul, Ph.D., 2000, *American Studies*, Nottingham University-UK

Kfouri, Carol, Doctorate 1^{ère} Catégorie, 1997, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Salameh, Doumit, Ph.D., 1988, *Philosophy*, St. Louis University, USA

Assistant Professors

Bahous, Jocelyne, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Darouny, Kamal, M.A., 1986, *Marketing and Advertising*, Sussex College of Technology, UK

Donerian, Vatche, M.A., 1987, *Theater and TV Directing*, Yerevan State Institute of Dramatic and Fine Arts, Armenia

El-Doaihi, Jamil, Ph.D., 1998, *Arabic Literature*, Sydney University, Australia

El Khoury, Akram, Ph.D., 2006, *Canon Law*, Pontificia Universitas Lateranensis-Rome, Italy

Fahed, Ziad, Ph.D., 2001, *Théologie Canonique*, Université Catholique de Lyon, France

Karam, Clovis, Doctorate, 1984, *Scholastic Philosophy*, Université Catholique de Lyon, France

¹*Matar, Suhail*, C.A.P.E.S., 1969, *Arabic Language and Literature*, Lebanese University, Lebanon

Malek, Amal, Doctorate 1^{ère} Catégorie, 2000, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Nasser, Ramzi, Ph.D., 1993, *Mathematics and Science Education*, University of Massachusetts at Lowell, USA

Nikro, Norman, Ph.D., 1998, *Cultural Studies*, University of New South Wales, Australia

²*Samra, Sami*, Doctorate 1^{ère} Catégorie, 1999, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon

Willis, Mary-Angela, Ph.D., 2001, *Francophone Literature*, University of Alabama, USA

Yaacoub, Youssef, Ph.D., 1990, *Education*, Loyola University of Chicago, USA

¹ On tenure appointment

² Leave of absence for academic year 2007-2008

Yazigy, Amal, Ph.D., 1992, *Applied Linguistics*, Leicester University, UK

Senior Lecturers

Abou-Jawdeh, Simon, C.E.P., 2002, *Psychotherapy*, Vienna; D.E.S., 1992, *Clinical Psychology*, Lebanese University, Lebanon

Chidiac, May, D.E.S., 1996, *Journalism*, Lebanese University; Université Pantheon, Assas, Paris II, France

Wehbe, Boulos (Marwan), M.A., 1981, *Middle Eastern Studies*, American University of Beirut, Lebanon

Lecturers

Akkari, Juliet, M.A., 1971, *TEFL*, American University of Beirut, Lebanon

Chibani, Wissam, M.A., 2001, *TESOL*, Oklahoma City University, Oklahoma, USA

Hajj, Michael, M.A., 1997, *English Literature*, NDU, Lebanon

Khoury, Mary, M.A., 1995, *English Language and Literature*, Lebanese University, Lebanon

Samrani, Diana, M.A., 1990, *Education*, Andrews University of Michigan, USA

Instructors

Bassil, Janet, M.B.A., 1996, *International Affairs*, NDU, Lebanon

Karam, Mirna, M.A., 2005, *Applied Linguistics*, NDU, Lebanon

Audio Visual Facilities

Lahoud, Sam, M.A., 2001, *Études Scéniques et Audio Visuelle*, Université Saint Joseph, Lebanon, *Supervisor Audio Visual Facilities*

Saade, Rania, B.A., 1999, *Radio-TV*, NDU, Lebanon, *Administrative Assistant, Audio Visual Facilities*

Azar, Antoine, D.E.S., 1980, *Electronique*, Université des Sc.& Tech. de Lille, Lebanon, *Video Associate and Technical Consultant*

Gunstone, Anthony, Certificate, 1981, *Business Administration*, King Eggbert Institute-Sheffield, UK, *Audio Associate*

Abi Adam, Naoum, B.A., 2004, *Communication Arts-RTV*, NDU, Lebanon, *Computer Associate*

Awky, Zoya, Recording Engineer Diploma, 1988, Sound Master: Audio/Video Institute, Hollywood, USA, *Co-Academic-Commercial Coordinator and Radio Station Manager*

Khabbaz, Nicolas, B.A., 2004, *Communication Arts - RTV*, NDU, Lebanon, *Project Coordinator*

Zeinati, Maria B.A., 2005, *Communication Arts - RTV*, NDU, Lebanon, *Studio Assistant*

Al Achy, Samer, B.A., 2006, *Communication Arts - RTV*, NDU, Lebanon, *Studio Assistant*

Ghanem, Milo, T.S. Electricite, 1983, CIT, Lebanon, *Audio Visual University Services*

Bejjani, Abdo, *Audio Visual University Services*

Tarabay, Charbel, *Events Assistant*

Staff Members

Chemaly, Wassil, B.A., 1998, *Advertising & Marketing*, NDU, Lebanon, *Administrative Assistant to the Dean*

Eid, Alice, *Secretarial Studies*, 1992, Bechara Technical School, Lebanon, *Secretary, Mass Communication Department*.

Jabbour, Vera, B.A., 2002, *Translation & Interpretership*, NDU, Lebanon, *Secretary, English, Translation & Education Department*

Noufaily, Christine, M.A., 2007, *Graphic Design*, *Secretary, Social & Behavioral Sciences Department*

FACULTY OF HUMANITIES

Dean: *Dr. Carol Kfoury*

Administrative Assistant: *Ms. Wassil Chemaly*

The Faculty of Humanities plays two roles in the academic life of the university. The first is to offer degree-granting programs on both the undergraduate and graduate levels; the second is to provide a large array of general education requirements, foreign language courses, and special programs designed for students at the various stages of their academic careers.

Three departments are housed under the Faculty of Humanities:

Department of English, Translation, and Education

Department of Mass Communication

Department of Social and Behavioral Sciences

DEPARTMENT OF ENGLISH, TRANSLATION, AND EDUCATION

Chairperson: *Dr. Mary-Angela Willis*

Secretary: *Ms. Vera Jabbour*

Professors

Eid, Assad, Doctorate, 1986, Université Saint-Joseph, Lebanon

Applied Linguistics and TEFL

Oueijan, Naji, Ph.D., 1985, Baylor University, USA

English Literature

Sarru', Boulos, Ph.D., 1979, Indiana University, USA

English and American Studies

Associate Professors

Abou-Chedid, Kamal, Ph.D., 1997, Manchester University, UK

Education

Jahshan, Paul, Ph.D., 2000, Nottingham University-Nottingham, UK

American Studies

Kfourri, Carol, Doctorate 1^{ère} Catégorie, 1997, Université du Saint-Esprit Kaslik, Lebanon

Philosophie et Sciences Humaines

Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon

Philosophie et Sciences Humaines

Assistant Professors

Bahous, Jocelyne, Doctorate 1^{ère} Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon

Philosophie et Sciences Humaines

Malek, Amal, Doctorate 1^{ère} Catégorie, 2000, Université du Saint-Esprit Kaslik, Lebanon

Philosophie et Sciences Humaines

Nasser, Ramzi, Ph. D., 1993, *Mathematics and Science Education*, University of Massachusetts at Lowell, USA

Nikro, Norman, Ph.D., 1998, University of New South Wales, Australia

Cultural Studies

Samra, Sami, Doctorate 1^{ère} Catégorie, 1999, Université du Saint-Esprit Kaslik, Lebanon

Philosophie et Sciences Humaines

Willis, Mary-Angela, Ph.D., 2001, University of Alabama, USA

Francophone Literature

Yazigy, Amal, Ph.D., 1992, Leicester University, UK

Applied Linguistics

Lecturers

Akkari, Juliet, M.A., 1971, American University of Beirut, Lebanon

TEFL

Chibani, Wissam, M.A., 2001, Oklahoma City University, Oklahoma, USA

TESOL

Hajj, Micheal, M.A., 1997, Notre Dame University, Lebanon

English Literature

Khoury, Mary, M.A., 1995, Lebanese University, Lebanon

English Language and Literature

Samrani, Diana, M.A., 1990, Andrews University of Michigan, USA

Education

Instructors

Bassil, Janet, M.B.A., 1996, Notre Dame University, Lebanon

International Affairs

Karam, Mirna, M.A., 2005, NDU, Lebanon

Applied Linguistics

The Department of English, Translation, and Education offers the following degree programs:

- B.A. in Education
- B.A. in English
- B.A. in Physical Education and Sports
- B.A. in Translation and Interpretership
- M.A. in Applied Linguistics and TEFL
- M.A. in English Literature
- M.A. in Education
- M.A. in Translation and Interpretership
- Teaching Diploma
- Teaching Certificate

In addition, the Department offers:

An Intensive English Program

A communication Skills Program

Language Courses (French, German, Italian, Spanish and Latin)

The Department of English, Translation, and Education offers 4 undergraduate degrees and 5 graduate degrees. Students are able to choose concentration areas which suit their particular professional interests.

In addition, the department offers an Intensive English program, a Communication Skills program for all NDU students, as well as elective language courses.

Intensive English Program

Students who score less than 400 on the NDU EET are offered the opportunity to take a one-semester 12-cr. intensive English course. Students are also permitted to take one Math remedial course. The passing grade is C (70) in Intensive English. A student who scores a B or above will be placed automatically in ENL 110.

Intensive English is divided into two components:

Grammar and Writing (6cr.)

Reading and Oral (6cr.)

Other than the traditional class setting, students will be introduced to university life through initiation to the Mariam and Youssef main library and the Writing Center, and will have opportunities to sit in on regular university classes.

Communication Skills Program

This program is offered at two levels: Freshman and Sophomore

Freshman English:

ENL 105 - College English I (5 non-credit carrying; passing grade is C) *Note: Students who score a B or above in ENL 105 will be placed in ENL 213*

ENL 110 - College English II (3 non-credit carrying; passing grade is a C)

Sophomore English:

ENL 213 - Sophomore English Rhetoric (3cr.)

ENL 223 - Communication Arts (3cr.)

ENL 230 - English in the Workplace (3cr.)

Languages

The Department also offers courses in the following languages:

German, Italian, Spanish, French, Chinese, Latin, and Syriac

Teaching Diploma

The purpose of the Teaching Diploma program is to prepare school teachers.

The program is designed to cater to both the freshly-out-of- school, inexperienced graduate and the teacher who has already had some experience but who lacks scientific preparation.

The course material will cover the various aspects of teaching, regardless of the subject matter. Such aspects include general educational theories of acquisition, basic educational psychology, discipline and management in the classroom, testing and evaluating, and the different methods of the teaching-learning process.

Admission Requirements

To qualify for admission, a candidate must either be working towards a BA/BS degree, or hold a recognized BA/BS degree. All candidates must pass the English Entrance Test (EET) with a minimum score of 500.

Recognition

The Government of Lebanon recognizes the Teaching Diploma as equivalent to the “License d’Enseignement” if the student holds the Lebanese Baccalaureate Part II and has successfully passed the number of credits required for the Diploma over and above the total number of credits required for the BA or the BS degree.

Graduation Requirements

In order to obtain the Teaching Diploma, students must successfully pass 18 credits with a GPA of 2.0/4.0 or above in the following courses:

EDU 201 Introduction to Education

EDU 313 Psychology of Education: Learning

EDU 343 Classroom Management

or

EDU 330 Curriculum Development and Evaluation

Depending on their concentration, Arabic, English, Mathematics, Biology, Physical Education or Translation and Interpretation, students must select a set of 3 courses suited to their discipline.

The Teaching Certificate

The Teaching Certificate program is designed to help school teachers conduct their classes scientifically. However, this is not a graduate program: the candidate is not required to hold a university degree to join. This program will cater to elementary school teachers who are already teaching in a school but do not hold a university degree.

Admission Requirements

To qualify for admission, a candidate must hold a Lebanese Baccalaureate Part II or its equivalent. The candidate must prove English language proficiency - either by passing the

TOEFL with a minimum score of 550 or the EET with a minimum score of 500. The candidate must also sit for an oral interview before he/she can be admitted to the program.

Academic Requirements

In order to receive the Teaching Certificate, a candidate must complete 18 credits with a GPA of 2.0/4.0 or above in the following courses:

| | |
|---------|--|
| EDU 201 | Introduction to Education |
| EDU 313 | Psychology of Education: Learning |
| EDU 343 | Classroom Management |
| EDU 350 | Methods of Teaching - Elementary Level |
| EDU 430 | Tests, Measurement and Evaluation - Elementary Level |
| EDU 460 | Teaching Practicum - Elementary Level |

Teaching Diploma in Arabic Language and Literature

The purpose of the Teaching Diploma program is to prepare school teachers.

The program is designed to cater to both the freshly-out-of- school, inexperienced graduate and the teacher who has already had some experience but who lacks scientific preparation.

The course material will cover the various aspects of teaching Arabic. Such aspects include general educational theories of acquisition, basic educational psychology, discipline and management in the classroom, testing and evaluating, and the different methods of the teaching-learning process.

Admission Requirements

To qualify for admission, a candidate must either be working towards a BA degree in Arabic or hold a recognized BA degree in Arabic.

Recognition

The Government of Lebanon recognizes the Teaching Diploma as equivalent to the “License d’Enseignement” if the student holds the Lebanese Baccalaureate Part II and has successfully passed the number of credits required for the Diploma over and above the total number of credits required for the BA degree in Arabic.

Graduation Requirements

In order to obtain the Teaching Diploma, students must successfully pass 18 credits with a GPA of 2.0/4.0 or above in the following courses:

| | |
|---------|--|
| EDU 202 | Introduction to Education (in Arabic) |
| EDU 314 | Educational Psychology (in Arabic) |
| EDU 315 | Literary Criticism (in Arabic) |
| EDU 345 | Methods of Teaching Arabic Language and Literature (in Arabic) |
| EDU 359 | Curriculum Design (in Arabic) |
| EDU 414 | Writing Styles and Textual Analysis (in Arabic) |
| EDU 477 | Practicum in Teaching Arabic (in Arabic) |

The Teaching Certificate in Arabic Language and Literature

The Teaching Certificate program is designed to help school teachers conduct their classes scientifically. However, this is not a graduate program: the candidate is not required to hold a university degree to join. This program will cater to elementary school teachers who are already teaching in a school but do not hold a university degree.

Admission Requirements

To qualify for admission, a candidate must hold a Lebanese Baccalaureate II or its equivalent. The candidate must prove Arabic language proficiency. The candidate must also sit for an oral interview before he/she can be admitted to the program.

Academic Requirements

In order to receive the Teaching Certificate, a candidate must complete 18 credits with a GPA of 2.0/4.0 or above in the following courses:

- EDU 202 Introduction to Education (in Arabic)
- EDU 314 Educational Psychology (in Arabic)
- EDU 315 Literary Criticism (in Arabic)
- EDU 345 Methods of Teaching Arabic Language and Literature (in Arabic)
- EDU 359 Curriculum Design (in Arabic)
- EDU 414 Writing Styles and Textual Analysis (in Arabic)
- EDU 477 Practicum in Teaching Arabic(in Arabic)

The Degree of Bachelor of Arts in Education - Early Childhood

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Early Childhood program prepares students to work with pre-school pupils, providing them with proper activities reinforcing positive attitudes towards the school.

Graduation Requirements

Students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

General Education Requirements

27 cr.

Communication Skills

ENL 213, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

| | |
|--|---------------|
| Core Requirements | 30 cr. |
| PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360 | |
| Major Requirements | 25 cr. |
| EDU 311, EDU 332, EDU 344, EDU 355, EDU 411, EDU 413, EDU 465, EDU 475, EDU 485 | |
| Students must choose 18 credits as described below: | 18 cr. |
| <i>Group I:</i> EDU 212 or EDU 301 or EDU 321 (3 credits) | |
| <i>Group II:</i> EDU 361 or EDU 362 or EDU 402 or EDU 420 or EDU 421 or EDU 422 or EDU 430 or EDU 450 (12 credits) | |
| <i>Group III:</i> EDU 401 or SOL 312 (3 credits) | |
| Free Electives | 5 cr. |

**Bachelor of Arts in Education - Early Childhood
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| EDU | 201 | Introduction to Education | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| ENL | 223 | Communication Arts (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| REG | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| EDU | 344 | School Libraries | 3 cr. |
| ENL | 311 | English Phonetics | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| EDU | 311 | Children's Literature | 3 cr. |
| EDU | 355 | Methods of Teaching: Early Childhood | 3 cr. |
| — | — | Group I ¹ | 3 cr. |
| — | — | Group II ² | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| EDU | 360 | Instructional Technology | 3 cr. |
| HUT | 411 | Aesthetics | 3 cr. |
| or | | | |
| SOL | 313 | Family Violence and Child Abuse | |
| — | — | Group III ³ | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 332 | Curriculum Development and Evaluation: Early Childhood | 3 cr. |
| EDU | 411 | Early Childhood Education | 3 cr. |
| EDU | 465 | Early Childhood Teaching Practicum I | 3 cr. |
| — | — | Group II ² | 6 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 413 | Early Childhood General Health, Nutrition and Safety | 3 cr. |
| EDU | 475 | Early Childhood Teaching Practicum II | 3 cr. |
| EDU | 485 | Early Childhood Internship | 1 cr. |
| — | — | Group II ² | 3 cr. |
| — | — | Free Elective | 2 cr. |

¹Group I (3 cr.) EDU 212/301/321

²Group II (12 cr.) EDU 361/362/402/420/421/422/430/450

³Group III (3 cr.) EDU 401/SOL 312

The Degree of Bachelor of Arts in Education - Learning Disabilities

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Learning Disabilities program prepares students to work with pupils disadvantaged by learning disabilities.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

General Education Requirements 27 cr.

Communication Skills

ENL 213, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements 30 cr.

PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360

Major Requirements 25 cr.

EDU 311, EDU 324, EDU 344, EDU 357, EDU 422, EDU 430, EDU 460, EDU 470, EDU 480

Students must choose 18 credits as described below:

Group I: EDU 212 or EDU 302 or EDU 325 (3 credits)

Group II: EDU 321 or EDU 342 (3 credits)

Group III: EDU 362 or EDU 402 or EDU 412 or EDU 413 or EDU 420 or EDU 421 or EDU 451 (9 credits)

Group IV: EDU 401 or SOL 312 (3 credits)

18 cr.

Free Electives 5 cr.

**Bachelor of Arts in Education - Learning Disabilities
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| EDU | 201 | Introduction to Education | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| ENL | 223 | Communication Arts (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| REG | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| EDU | 344 | School Libraries | 3 cr. |
| ENL | 311 | English Phonetics | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 311 | Children's Literature | 3 cr. |
| EDU | 324 | Counseling in Special Education | 3 cr. |
| EDU | 357 | Methodology of Teaching: Learning Disabilities | 3 cr. |
| — | — | Group I ¹ | 3 cr. |
| — | — | Group II ² | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| EDU | 360 | Instructional Technology | 3 cr. |
| HUT | 411 | Aesthetics | 3 cr. |
| or | | | |
| SOL | 313 | Family Violence and Child Abuse | |
| — | — | Group III ³ | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 422 | Learning and Behavioral Difficulties of Children | 3 cr. |
| EDU | 460 | Elementary Teaching Practicum I | 3 cr. |
| — | — | Group III ³ | 3 cr. |
| — | — | Group III ³ | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 430 | Tests, Measurement and Evaluation: Elementary Level | 3 cr. |
| EDU | 470 | Elementary Teaching Practicum II | 3 cr. |
| EDU | 480 | Elementary Teaching Internship | 1 cr. |
| — | — | Group IV ⁴ | 3 cr. |
| — | — | Free Elective | 2 cr. |

¹ Group I (3 cr.) EDU 212/302/325

² Group II (3 cr.) EDU 321/342

³ Group III (9 cr.) EDU 362/402/412/413/420/421/451

⁴ Group IV (3 cr.) EDU 401/SOL 312

The Degree of Bachelor of Arts in Education - Education of the Gifted

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Education of the Gifted program prepares students to work with special pupils and answer to their particular needs. It also gives the student the necessary tools to challenge gifted pupils and to make their schooling not only pedagogically sound but also psychologically fulfilling.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| Communication Skills ENL 213, ENL 223 | |
| Computer Skills CSC 201 | |
| Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies. | |
| Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc. | |
| Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc. | |
| Core Requirements | 30 cr. |
| PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360 | |
| Major Requirements | 25 cr. |
| EDU 322, EDU 323, EDU 341, EDU 344, EDU 361, EDU 430, EDU 460, EDU 470, EDU 480 | |
| Students must choose 18 credits as described below: | 18 cr. |
| <i>Group I:</i> EDU 330 or EDU 331 (3 credits) | |
| <i>Group II:</i> EDU 301 or EDU 311 or EDU 321 or EDU 324 or EDU 402 or EDU 413 or EDU 420 or EDU 421 or EDU 422 (12 credits) | |
| <i>Group III:</i> EDU 401 or EDU 412 (3 credits) | |
| Free Electives | 5 cr. |

Bachelor of Arts in Education - Education of the Gifted
Suggested Program (105 credits)

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| EDU | 201 | Introduction to Education | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| ENL | 223 | Communication Arts (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----|---|-------|
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| REG | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| EDU | 344 | School Libraries | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 322 | Education of Talented and Gifted Students | 3 cr. |
| ENL | 311 | English Phonetics | 3 cr. |
| — | — | Group I ¹ | 3 cr. |
| — | — | Group II ² | 3 cr. |
| — | — | Group II ³ | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| EDU | 360 | Instructional Technology | 3 cr. |
| HUT | 411 | Aesthetics | 3 cr. |
| or | | | |
| SOL | 313 | Family Violence and Child Abuse | |
| — | — | Free electives | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 323 | Behavioral Problems of exceptional Students | 3 cr. |
| EDU | 341 | Reading Skills for the Gifted | 3 cr. |
| EDU | 361 | Applications of Computers in Teaching | 3 cr. |
| EDU | 460 | Elementary Teaching Practicum I | 3 cr. |
| — | — | Group II ² | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 430 | Tests, Measurement and Evaluation: Elementary Level | 3 cr. |
| EDU | 470 | Elementary Teaching Practicum II | 3 cr. |
| EDU | 480 | Elementary Teaching Internship | 1 cr. |
| — | — | Group II ² | 3 cr. |
| — | — | Group III ⁴ | 3 cr. |
| — | — | Free Elective | 2 cr. |

¹ Group I (3 cr.) EDU 330/331

² Group II (12 cr.) EDU 301/311/321/324/402/413/420/421/422

³ Group II (12 cr.) EDU 301/311/321/324/402/413/420/421/422

⁴ Group III (3 cr.) EDU 401/412

The Degree of Bachelor of Arts in Education - School Counseling

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - School Counseling program prepares students to work in schools and other educational institutions, assisting the pupils to better cope with their problems. This program, however, does not equip students for clinical counseling.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in both the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| Communication Skills ENL 213, ENL 223 | |
| Computer Skills CSC 201 | |
| Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies. | |
| Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc. | |
| Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc. | |
| Core Requirements | 30 cr. |
| PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360 | |
| Major Requirements | 25 cr. |
| EDU 212, EDU 302, EDU 311, EDU 324, EDU 344, EDU 402, EDU 420, EDU 451, EDU 487 | |
| Students must choose 18 credits as described below: | 18 cr. |
| <i>Group I:</i> EDU 322 or EDU 323 (3 cr.) | |
| <i>Group II:</i> EDU 330 or EDU 331 (3 cr.) | |
| <i>Group III:</i> EDU 355 or EDU 356 or EDU 357 (3 cr.) | |
| <i>Group IV:</i> EDU 413 or EDU 421 or EDU 422 or EDU 450 (6 cr.) | |
| <i>Group V:</i> EDU 351 or EDU 401 or EDU 412 (3 cr.) | |
| Free Electives | 5 cr. |

**Bachelor of Arts in Education - School Counseling
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| EDU | 201 | Introduction to Education | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| ENL | 223 | Communication Arts (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| REG | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| EDU | 344 | School Libraries | 3 cr. |
| ENL | 311 | English Phonetics | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 212 | Sociological Perspectives on Schools | 3 cr. |
| EDU | 302 | Introduction to Education of the Mentally Retarded | 3 cr. |
| EDU | 311 | Children's Literature | 3 cr. |
| — | — | Group I ¹ | 3 cr. |
| — | — | Group II ² | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| EDU | 360 | Instructional Technology | 3 cr. |
| EDU | 420 | Crisis Intervention | 3 cr. |
| HUT | 411 | Aesthetics | 3 cr. |

or

| | | | |
|-----|-----|---------------------------------|--|
| SOL | 313 | Family Violence and Child Abuse | |
|-----|-----|---------------------------------|--|

Fall Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| EDU | 324 | Counseling in Special Education | 3 cr. |
| EDU | 402 | Foundations of Counseling Services | 3 cr. |
| — | — | Group III ³ | 3 cr. |
| — | — | Group IV ⁴ | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| EDU | 451 | Clinical Assessment in Schools | 3 cr. |
| EDU | 487 | Counseling/Guidance Internship | 1 cr. |
| — | — | Group IV ⁴ | 3 cr. |
| — | — | Group V ⁵ | 3 cr. |
| — | — | Free Elective | 2 cr. |

¹ Group I (3 cr.) EDU 322/323
² Group II (3 cr.) EDU 330/331
³ Group III (3 cr.) EDU 355/356/357
⁴ Group IV (6 cr.) EDU 443/421/422/450
⁵ Group V (3 cr.) EDU 351/401/412

The Degree of Bachelor of Arts in Education - Education of the Handicapped

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Education of the Handicapped program prepares students to work with the handicapped professionally, by providing them with the necessary methodology, techniques, and psychological background.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in both the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements **30 cr.**

PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360

Major Requirements **25 cr.**

EDU 302, EDU 311, EDU 324, EDU 342, EDU 356, EDU 450, EDU 466, EDU 476, EDU 486

Students must choose 18 credits as described below: **18 cr.**

Group I: EDU 330 or EDU 331 (3 credits)

Group II: EDU 301 or EDU 321 or EDU 325 or EDU 344 or EDU 361 or EDU 412 or EDU 420 (12 credits)

Group III: EDU 401 or SOL 312 (3 credits)

Free Electives **5 cr.**

**Bachelor of Arts in Education - Education of the Handicapped
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| EDU | 201 | Introduction to Education | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| ENL | 223 | Communication Arts (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development | 3 cr. |
| NTR | 201 | Basic Human Nutrition (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| REG | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 302 | Introduction to the Education of the Mentally Retarded | 3 cr. |
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| ENL | 311 | English Phonetics | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 311 | Children's Literature | 3 cr. |
| EDU | 324 | Counseling in Special Education | 3 cr. |
| EDU | 342 | Instructional Strategies for the Handicapped | 3 cr. |
| — | — | Group I ¹ | 3 cr. |
| — | — | Group II ² | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| EDU | 360 | Instructional Technology | 3 cr. |
| HUT | 411 | Aesthetics | 3 cr. |
| or | | | |
| SOL | 313 | Family Violence and Child Abuse | |
| — | — | Group II | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 356 | Methods of Teaching: the Handicapped | 3 cr. |
| EDU | 466 | Teaching of the Handicapped Practicum I | 3 cr. |
| — | — | Group II ² | 6 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|---|-------|
| EDU | 450 | Law and the Handicapped | 3 cr. |
| EDU | 476 | Teaching of the Handicapped Practicum II | 3 cr. |
| EDU | 486 | Teaching of the Handicapped Teaching Internship | 1 cr. |
| — | — | Group III ³ | 3 cr. |
| — | — | Free Elective | 2 cr. |

¹ Group I (3 cr.) EDU 330/331

² Group II (12 cr.) EDU 301/321/325/344/361/412/420

³ Group III: (3 cr.) EDU 401 or SOL 312

The Degree of Bachelor of Arts in Physical Education and Sport

NDU offers a program in physical education designed to meet the needs of those who plan on pursuing careers as teachers, coaches, or trainers. It is strongly recommended that students majoring in Physical Education and Sport also study for their Teaching Diploma in Physical Education. The BA in Physical Education will provide students with high quality education, increase students' theoretical knowledge, develop students' practical skills in various sports activities, including sports required in international baccalaureate programs, instill a commitment to health and fitness, and prepare students to practice their skills and compete in the job market.

- Students must either pass PES 321 before taking major elective courses or register concurrently in PES 321 and other major elective courses.
- Courses are part lecture and part activity.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the core and major requirements.

Degree Requirements (105 credits)

General Education Requirements: **27 cr.**

Communication Skills

ENL 213, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements **39 cr.**

PES 204, PES 205, PES 250, PES 301, PES 321, PES 354, PES 358, PES 361, PES 420, PES 421, PES 422, PES 426, PES 492, EDU 213 or EDU 214

Major Electives **34 cr.**

- 6 courses from the following pool: PES 326, PES 327, PES 328, PES 329, PES 330, PES 331, PES 332
- 10 courses from the following pool: PES 322, PES 333, PES 334, PES 335, PES 336, PES 337, PES 338, PES 339, PES 340, PES 341, PES 342
- 1 course from the following pool: PES 343, PES 344

Free Electives **5 cr.**

**Bachelor of Arts in Physical Education and Sport
Suggested Program (105 Credits)**

Fall Semester I (16 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| PES | 204 | Foundations in Physical Education | 3 cr. |
| PES | 321 | Physical Exercise | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| EDU | 213 | Human Growth & Development | 3 cr. |
| or | | | |
| EDU | 214 | Youth in Contemporary Society | 3 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| PES | 205 | Physical Therapy & Athletic Injuries | 3 cr. |
| PES | 250 | Motor Development & Motor Learning | 3 cr. |
| PES | 301 | Anatomical Kinesiology | 3 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| PES | 354 | Athletic Fitness Training | 3 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer II (6 credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| PES | 358 | Physiology of Exercise | 3 cr. |
| PES | 361 | Sports Policy & Management | 3 cr. |
| PES | 420 | Theory of Fitness Coaching | 3 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| PES | 421 | Coaching | 3 cr. |
| PES | 422 | Biomechanics | 3 cr. |
| PES | 426 | Adapted Physical Fitness | 3 cr. |
| PES | 492 | Internship | 1 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Major Elective | 2 cr. |
| — | — | Free Elective | 2 cr. |

The Degree of Bachelor of Arts in English Language

The English major

- helps students obtain that mastery of the English language which is now necessary in most non-teaching careers,
- provides the necessary background required by those who intend to engage in teaching English language and/or literature, and
- prepares students to pursue graduate studies in language and/or literature.

Graduation Requirements

Students majoring in English must meet the General Education Requirements and successfully complete a total of 102 credits with an overall GPA of at least 2.0/4.0 and a minimum average of 2.0/4.0 in the major requirements. A minimum grade of “C” is required in ENL 213 and ENL 223. The 102 credits are divided into:

Degree Requirements (102 credits)

General Education Requirements

27 cr.

Communication Skills

ENL 213, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements

48 cr.

ENL 301, ENL 311, ENL 312, ENL 313, ENL 314, ENL 316, ENL 415, ENL 416, LIR 214, LIR 215, LIR 216, LIR 217, LIR 305, LIR 306, LIR 315, LIR 316

Major Requirements from the following pool

21 cr.

ENL 315, ENL 317, ENL 321, ENL 322, ENL 324, ENL 411, ENL 412, ENL 413, ENL 414, ENL 417, ENL 421, ENL 430, LIR 323, LIR 324, LIR 325, LIR 411, LIR 412, LIR 421, LIR 422, LIR 423, LIR 424, LIR 425, LIR 426, LIR 427, LIR 428, LIR 430

Free Electives

6 cr.

**Bachelor of Arts in English Language
Suggested Program (102 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| ENL | 301 | Introduction to the Study of Language | 3 cr. |
| ENL | 311 | Phonetics | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| LIR | 214 | Introduction to Literary Genres | 3 cr. |
| LIR | 215 | Introduction to Literary Criticism | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| ENL | 312 | Morphology | 3 cr. |
| ENL | 313 | Syntax | 3 cr. |
| ENL | 314 | English Vocabulary | 3 cr. |
| LIR | 216 | English Literature to the end of the 19 th C. | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| LIR | 217 | American Literature to the end of the 19 th C. | 3 cr. |
| LIR | 305 | Novel to the end of the 19 th C. | 3 cr. |
| ENL | 316 | Fundamentals of Discourse Analysis | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | GER | 3 cr. |
| — | — | Free Electives | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| ENL | 415 | Applied Linguistics | 3 cr. |
| ENL | 416 | Language Theories | 3 cr. |
| LIR | 306 | Drama to the end of the 19 th C. | 3 cr. |
| LIR | 315 | Modern and Contemporary Novel | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|---------------------|-------|
| LIR | 316 | Lebanese Writers | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |
| — | — | ENL/LIR Pool Course | 3 cr. |
| — | — | Free Elective | 3 cr. |

The Degree of Bachelor of Arts in Translation and Interpretation

The purpose of the B.A. in Translation and Interpretation is to prepare expert translators and interpreters to meet the present and future demands of translation in the fields of law, economics, politics, diplomacy, the humanities, media, and the arts.

The program is designed to refine students' linguistic skills in Arabic, English, and French. In this program, Arabic and English are the principal languages of translation.

Special skills include:

- Developing verbal and written messages,
- Developing proficiency in speech delivery with accurate pronunciation, intonation, tempo and rhythm,
- Acquiring the latest methods of translation, summary, reporting, analysis, and interpreting,
- Integrating knowledge and experience in the use of modern translation and interpreting equipment and technology, and
- Developing intellectual and cultural formation.

Students may choose to emphasize either Translation or Interpretation.

Once admitted to the program students are required to develop competence in the three languages: English, Arabic, and French. Students may be required to take remedial courses in these languages in which a "C" or above is required.

Graduation Requirements

Students majoring in Translation and Interpretation must successfully complete a total of 108 credits with a minimum grade-point average of 2.0/4.0 and a minimum average of 2.0/4.0 in the major requirements including the emphasis area. These credits are divided into:

Degree Requirements (108 credits)

General Education Requirements

27 cr.

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements

58 cr.

ENL 223, ENL 314, ENL 312, TRA 201, TRA 202, TRA 211, TRA 212, TRA 301, TRA 302, TRA 311, TRA 312, TRA 331, TRA 401, TRA 402, TRA 411, TRA 412, TRA 421, TRA 422, INT 431, INT 432

Major Translation Requirements

TRA 403, TRA 431, TRA 432, TRA 433, TRA 434, TRA 480

or

Major Interpretation Requirements

INT 433, INT 434, INT 435, INT 436, INT 480, FRC 223

16 cr.

16 cr.

Electives

Language: ENL 311, ENL 313, FRN 222, LTN 201, LTN 202

Education: EDU 201

Journalism: JOU 314

Psychology: PSL 201

Translation: TRA 332

Keyboarding: CSC 200 (Arabic)

7 cr.

**Bachelor of Arts in Translation and Interpretation
Suggested Program (108 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| ENL | 223 | Communication Art | 3 cr. |
| ARB | — | GER | 3 cr. |
| — | — | GER | 6 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HUT | 305 | Human Thought to 1500 (GER) | 3 cr. |
| | | or | |
| HUT | 306 | Human Thought from 1500 to the Present (GER) | |
| ENL | 312 | Morphology | 3 cr. |
| — | — | GER | 6 cr. |

Summer Session I (3 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
|---|---|-----|-------|

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| TRA | 201 | Trans. Theory and Methodology | 3 cr. |
| TRA | 211 | Trans. of Cont. Engl. Texts | 3 cr. |
| TRA | 212 | Trans. of Cont. French Texts | 3 cr. |
| ENL | 314 | English Vocabulary | 3 cr. |
| — | — | Electives | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| TRA | 202 | Trans. Theory and Methodology | 3 cr. |
| TRA | 301 | Trans. of English Doc. | 4 cr. |
| TRA | 302 | Trans. of French Doc. | 4 cr. |
| TRA | 311 | Trans. of Engl. Legal Doc. | 3 cr. |
| — | — | Elective | 1 cr. |

Summer Session II (3 Credits)

| | | | |
|---|---|----------|-------|
| — | — | Elective | 3 cr. |
|---|---|----------|-------|

Fall Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| TRA | 312 | Trans. of French Legal Doc. | 3 cr. |
| TRA | 331 | Mechanical Trans. and Inter. | 3 cr. |
| TRA | 401 | Trans. of Engl. Bus. Texts | 3 cr. |
| TRA | 402 | Trans. of French Bus. Texts | 3 cr. |
| INT | 431 | Interpreting: Engl. Ara. I | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|------|-----|------------------------|-------|
| TRA | 403 | Trans. Practicum | 3 cr. |
| TRA | 411 | Trans. of Engl. Films | 2 cr. |
| TRA | 412 | Trans. of French Films | 2 cr. |
| TRA | 421 | Trans. of Engl. Lit. | 2 cr. |
| TRA | 422 | Trans. of French Lit. | 2 cr. |
| INT | 432 | Inter. French-Arabic I | 3 cr. |
| TRA | 480 | Inter. Internship | 1 cr. |
| /INT | | | |

Fall Semester IV Emphasis (15 Credits)

| | | | |
|------|---|--|--------|
| TRA | — | | 15 cr. |
| /INT | | | |

The Degree of Master of Arts in English Language and Literature - Concentration Applied Linguistics and TEFL

The concentration Applied Linguistics and TEFL is designed to help students develop language teaching competence. Holders of the degree may choose to move on to careers such as lecturers in teacher training colleges, advisors in ministries of education, specialist inspectors, heads of departments, syllabus designers, materials and test writers etc. Others may wish to pursue post-graduate studies (PhD) and make a significant contribution to advanced research work.

Admission Requirements

Preference is given to applicants with additional qualifications and professional experience (teaching). Applicants must provide evidence of a high level of proficiency in English before their application can be considered; a minimum of 600 in the EET (English Entrance Test) is required for admission. For those who take the GRE (Graduate Record Exam), proof of a satisfactory performance is required.

Graduation Requirements

To satisfy the requirements for the M.A. in Applied Linguistics and TEFL, the student must complete a total of 36 credits with an overall average of 3.0/4.0 and must submit and defend a thesis. The required credits are divided into:

Major Requirements

24 cr.

These consist of the following: ENL 601, ENL 602, ENL 612, ENL 613, ENL 623, ENL 631, ENL 699

Electives

12 cr.

Students may select electives from the following: ENL 611, ENL 621, ENL 622, ENL 624, ENL 632, ENL 633, ENL 641, ENL 681, ENL 682, ENL 683, ENL 684, LIR 631, LIR 641

The Degree of Master of Arts in English Language and Literature

This program is intended to crystallize students' expertise in English studies and to augment their exposure to contextual areas of the discipline. The techniques and fields of research are set to provide students with opportunities either to pursue their Ph.D.s, or engage in a research or teaching career.

Graduation Requirements

To satisfy the requirements for the Master of Arts in English Literature, the student must complete 30 credits with an overall average of 3.0/4.0 and must either submit and defend a thesis or take six additional credits. Over and above these requirements, a candidate must take a three non-credit course in a second European language. Students may be exempted from this requirement if they:

1. Sit for a proficiency test in the second European language and score 500 or above or
2. Submit proof of proficiency certificate from an acknowledged institute of education.

| | | | |
|---------------------------|-----|---|---------------|
| Major Requirements | | | 15 cr. |
| ENL | 601 | Bibliography and Method. of Research | 3 cr. |
| LIR | 601 | History of the English Language | 3 cr. |
| LIR | 621 | English Literature, 1500-1660 (exclusive of Milton) | 3 cr. |
| LIR | 631 | English Fiction to 1800 | 3 cr. |
| LIR | 641 | American Literature 1609-1800 | 3 cr. |

| | | | |
|------------------|-----|-----------------------------------|---------------|
| Electives | | | 15 cr. |
| ENL | 603 | Linguistics | 3 cr. |
| LIR | 602 | Literature | 3 cr. |
| LIR | 611 | English Drama | 3 cr. |
| LIR | 612 | Jacobean and Restoration Drama | 3 cr. |
| LIR | 613 | Shakespeare | 3 cr. |
| LIR | 614 | Modern English and American Drama | 3 cr. |
| LIR | 615 | Irish Drama | 3 cr. |
| LIR | 622 | English Literature 1660-1790 | 3 cr. |
| LIR | 623 | English Literature 1790-1900 | 3 cr. |
| LIR | 624 | Modern British Poetry | 3 cr. |
| LIR | 625 | Modern American Poetry | 3 cr. |
| LIR | 632 | English Fiction 1800-1900 | 3 cr. |
| LIR | 633 | Contemporary Fiction | 3 cr. |
| LIR | 642 | American Literature 1800-1900 | 3 cr. |
| LIR | 651 | Literary Criticism | 3 cr. |
| LIR | 652 | Literary Trends and Movements | 3 cr. |
| LIR | 661 | Major Literary Figures | 3 cr. |
| LIR | 662 | World Literature | 3 cr. |
| LIR | 682 | Seminar in Selected Topics | 3 cr. |
| LIR | 699 | Thesis/or 2 courses | 6 cr. |

The Degree of Master of Arts in Education

The degree of Master of Education is offered to promote educational professionalism and to enhance the University's role in the field of education. The M.A. program concentrates on three areas: Special Education, School Management and Educational Leadership, and Educational Technology. The general educational objective of the program to better serve the community is met by this degree in that it offers necessary specializations and pioneering programs.

Admission Requirements:

Candidates are expected to have completed the degree of Bachelor of Education, Bachelor of Arts in Education, or Bachelor of Arts with a Teaching Diploma from an accredited university. Candidates holding the degree of Bachelor of Arts or Sciences in a related field from an accredited university will be considered on an individual basis, pending the decision of the Department concerning special admission conditions.

Graduation Requirements:

To satisfy the requirements for the degree of Master of Arts in Education, the student must complete a total of 33 credits with an overall average of 3.0/4.0, inclusive of a thesis.

Degree Requirements (33 credits)

Major Requirements 15 cr.

Complete the following required courses:
EDU 610, EDU 611, EDU 622, EDU 699

Electives 9 cr.

Three out of the following courses
EDU 612, EDU 613, EDU 614, EDU 621, EDU 623, EDU 624.

Concentration Area 9 cr.

1. Special Education: three out of the following courses: EDU 641, EDU 642, EDU 643, EDU 644

2. School Management and Educational Leadership: three out of the following courses: EDU 651, EDU 652, EDU 653, EDU 654

3. Educational Technology: three out of the following courses: EDU 661, EDU 662, EDU 663, EDU 664.

The Degree of Master of Arts in Translation/Interpretation

The M.A. in Translation and Interpretation aims at further equipping the students with increased competence and expertise in the areas of translation and interpretation. It also prepares graduate students for further academic studies at the doctoral level.

The program serves the needs and the career goals of those already working in the field who may want to upgrade their knowledge in these areas.

Admission Requirements

M.A. candidates must pass a written language proficiency test in French and Arabic. A grade of 70 or above is required in both exams. In Addition, an interview in English, French, and Arabic is also required. If only a small deficiency in one of the three languages is detected, remedial courses will be required during the first semester. A grade of **B** must be obtained in the remedial courses.

Graduation Requirements

To satisfy the requirements for a Master of Arts in Translation/Interpretation, the student must complete 36 credits with an over-all average of 3.0/4.0.

Degree Requirements (36 credits)

THE MASTER OF ARTS TRANSLATION

Major Requirements 30 cr.

TRA 610, TRA 620, TRA 621, TRA 622, TRA 630, TRA 631, TRA 632, TRA 633 or TRA 634, TRA 635 or TRA 636, TRA 637, TRA 638 or TRA 639, TRA 690

Electives 6 cr.

Choose 2 from the following: ENL 611, LIR 601, LIR 662, IAF 641, IAF 621, IAF 605, INT 610, or any two 600 level INT Courses.

THE MASTER OF ARTS IN INTERPRETATION

Major Requirements

30 cr.

Complete the following required courses: TRA 610, TRA 620, TRA 621, TRA 622, TRA 630, INT 610, INT 620, INT 621, INT 622

Electives

6 cr.

Choose 2 of the following: ENL 611, LIR 601, LIR 662, or any two 600 level BAD, COA or IAF courses.

Undergraduate courses: Education

EDU 201 Introduction to Education (3.0); 3 cr. Introduces the history and philosophy of education, structure and components of the school, and the role of the teacher.

EDU 202 Introduction to Education (2.0); 2 cr. Introduces the history and philosophy of education, structure, and components of the school, and the role of the teacher. (In Arabic)

EDU 212 Sociological Perspectives on Schools (3.0); 3 cr. Aims to give students a thorough understanding of pupils and current procedures in the classroom. *Corequisite:* EDU 201.

EDU 213 Human Growth and Development (3.0); 3 cr. Introduces students to the field of developmental psychology and its influence upon education. *Corequisite:* EDU 201.

EDU 214 Youth in Contemporary Society (3.0); 3 cr. Aims at developing an awareness of the Lebanese adolescent society by focusing on psychological and social development of the adolescent. *Corequisite:* EDU 201.

EDU 301 Introduction to Arts Education (3.0); 3 cr. Involves both a practical and a theoretical approach to dance, music and visual art in the community. *Corequisite:* EDU 201.

EDU 302 Introduction to the Education of the Mentally Disabled (3.0); 3 cr. Involves the diagnosis, classification, learning potential, and general characteristics of the disabled child. *Corequisite:* EDU 201.

EDU 311 Children's Literature (3.0); 3 cr. Introduces criteria for selection of children's literature, children's reading interests and preparation of materials. *Corequisite:* EDU 201.

EDU 313 Psychology of Education: Learning (3.0); 3 cr. Learning and its relation to growth and development. Surveys the theories of learning and their pedagogical implications. *Corequisite:* EDU 201.

EDU 314 Educational Psychology (2.0); 2 cr. Examines the interrelationship between education and psychology, presents the theoretical and practical perspectives of teaching, and compares the Western to the Arab theories and views. (In Arabic)

EDU 315 Literary Criticism (3.0); 3 cr. Introduces a wide variety of literary disciplines and methods and applies these disciplines to selected ancient and modern texts. (In Arabic)

EDU 321 Education and the Media (3.0); 3 cr. Examines and interprets the role that the press, radio, film, television and advertising play in developmental attitudes and behavior. *Corequisite:* EDU 313

EDU 322 Education of Talented and Gifted Students (3.0); 3 cr. Offers theoretical background and practical concerns for educating exceptionally able students. *Corequisite:* EDU 313.

EDU 323 Behavioral Problems of Exceptional Students (3.0); 3 cr. Introduces teaching methods appropriate to the needs of students with emotional and behavioral problems. *Corequisite:* EDU 313.

EDU 324 Counseling in Special Education (3.0); 3 cr. Presents approaches to working with exceptional individuals and their parents in the school, home and community. *Corequisite:* EDU 313.

EDU 325 The Needs of the Disabled (3.0); 3 cr. Is designed to develop awareness of the educational needs of the disabled and the competencies to meet those needs. *Corequisite:* EDU 313.

EDU 330 Curriculum Development and Evaluation: Elementary (3.0); 3 cr. Examines basic elements and foundations of a curriculum. Emphasis is on the elementary level. *Corequisite:* EDU 313.

EDU 331 Curriculum Development and Evaluation: Secondary (3.0); 3 cr. Same as EDU 330 but emphasizes the secondary level. *Corequisite:* EDU 313.

EDU 332 Curriculum Development and Evaluation: Early Childhood (3.0); 3 cr. Same as EDU 330 but emphasizes early childhood. *Corequisite:* EDU 313.

EDU 333 Curriculum Development and Evaluation: the Disabled (3.0); 3 cr. Same as EDU 330 but emphasizes students with learning disabilities. *Corequisite:* EDU 313

EDU 341 Reading Skills for the Gifted (3.0); 3 cr. Focuses on the special reading skills of gifted students. Current programs and teaching approaches are critically examined. *Corequisite:* EDU 313.

EDU 342 Instructional Strategies for the Disabled (3.0); 3 cr. Provides techniques for teaching the disabled, such as basic stimulus control, positioning, eating, toileting, etc. *Corequisite:* EDU 313.

EDU 343 Classroom Management (3.0); 3 cr. Examines the role of the teacher in a classroom situation: teacher-student interaction and variations in class activities. *Corequisite:* EDU 201.

EDU 344 School Libraries (3.0); 3 cr. Introduces library skills and provides students with ideas related to the structuring and enrichment of library material. *Corequisite:* EDU 201.

EDU 345 Methods of Teaching Arabic Language and Literature (3.0); 3 cr. Examines the most recent methods of teaching Arabic. Aims to develop the teachers abilities to motivate and inspire students. (In Arabic)

EDU 350 Methods of Teaching: Elementary (3.0); 3 cr. Provides principles and techniques of language, arithmetic, and science teaching in the elementary classes. *Corequisite:* EDU 313.

EDU 351 Methods of Teaching English as Foreign Language (3.0); 3 cr. Same as EDU 350 but focuses on the teaching of the four language skills at various learning stages. *Corequisite:* EDU 313.

EDU 352 Methods of Teaching Mathematics (3.0); 3 cr. Examines methods of teaching mathematics: educational objectives,

mathematical logic and teaching aids. *Corequisite:* EDU 313.

EDU 353 Methods of Teaching Science (3.0); 3 cr. Examines methods of teaching science: educational objectives, basic concepts, lab skills and teaching aids. *Corequisite:* EDU 313.

EDU 354 Methods of Teaching Social Studies (3.0); 3 cr. Deals with different approaches to teaching history, geography and civics. *Corequisite:* EDU 313.

EDU 355 Methods of Teaching: Early Childhood (3.0); 3 cr. Methods and materials for the young child's learning: the use of manipulative and multi-sensory materials. *Corequisite:* EDU 313.

EDU 356 Methods of Teaching: the Handicapped (3.0); 3 cr. Methods for handicapped students: curriculum needs, teaching techniques and behavior management. *Corequisite:* EDU 313.

EDU 357 Methodology of Teaching: Learning Disabilities (3.0); 3 cr. Introduces dimensions of learning disabilities: identification, characteristics, development, habilitation. *Corequisite:* EDU 313.

EDU 359 Curriculum Design (2.0); 2 cr. Examines basic elements and foundations of the curriculum of Arabic language and literature in K-12 classes. (In Arabic)

EDU 360 Instructional Technology (3.0); 3 cr. The practical application of audio-visual materials, the operation and maintenance of equipment, and the construction of aids.

EDU 361 Applications of Computers in Teaching (3.0); 3 cr. The implications of computer application in the classroom. Students will learn software evaluation skills.

EDU 362 Education and the Lebanese Law (3.0); 3 cr. Studies the various laws in the Lebanese Constitution that determine the educational process in Lebanon.

EDU 401 Intercultural Communication (3.0); 3 cr. Introduces the comparative study of communication variables that influence interaction between persons of different social groups.

EDU 402 Foundations of Counseling Services (3.0); 3 cr. Studies the philosophy, theory, organization and administration of school and agency counseling services.

EDU 411 Early Childhood Education (3.0); 3 cr. Investigates the significance of early childhood years (0-8) in the education of children. A comparative study is made of early childhood education in Lebanon.

EDU 412 Gender and Human Interaction (3.0); 3 cr. Examines gender and communication and the relationship of gender to self-disclosure, self assertion, listening and empathy.

EDU 413 Early Childhood General Health, Nutrition and Safety (3.0); 3 cr. Investigates effective techniques for dealing with health, safety and nutrition in early childhood education.

EDU 414 Writing Styles and Textual Analysis (3.0); 3 cr. Surveys a variety of writing styles. It aims to develop the students' ability to write and analyze texts based on content and style. (In Arabic)

EDU 420 Crisis Intervention (3.0); 3 cr. Examines the crisis intervention services in community health, mental health, substances misuse, and child welfare.

EDU 421 Children at Risk (3.0); 3 cr. Identifies potential risks to which children may be exposed. Also shows how the teacher, school and community can cooperate with child to foster a positive sense of worth and ability.

EDU 422 Learning and Behavioral Difficulties (3.0); 3 cr. Presents adaptive teaching/learning procedures. Also prescribes instructional strategies and techniques.

EDU 430 Tests, Measurement and Evaluation: Elementary (3.0); 3 cr. Critically examines the basic principles and techniques of testing and evaluation on the elementary level. *Corequisite:* EDU 350.

EDU 431 Tests, Measurement and Evaluation in English (3.0); 3 cr. A critical examination of the basic principles and techniques of testing and evaluation in English. *Corequisite:* EDU 351.

EDU 432 Tests, Measurement and Evaluation in Mathematics (3.0); 3 cr. Same as EDU 431 but relates to the testing of mathematics. *Corequisite:* EDU 352.

EDU 433 Tests, Measurement and Evaluation in Science (3.0); 3 cr. Same as EDU 431 but relates to the testing of science subjects. *Corequisite:* EDU 353.

EDU 434 Tests, Measurement and Evaluation in Social Studies (3.0); 3 cr. Same as EDU 431 but relates to the testing of social studies. *Corequisite:* EDU 354.

EDU 438 Tests, Measurement and Evaluation in Arabic (3.0); 3 cr. Same as EDU 431 but relates to the testing of Arabic language.

EDU 450 Law and the Disabled (3.0); 3 cr. Discusses relevant laws pertaining to the disabled.

EDU 451 Clinical Assessment in the School (3.0); 3 cr. Studies the nature of psychological tests, standardization procedures, and types of scales and scores.

EDU 460 Elementary Teaching Practicum I (1.2); 3 cr. Guided and supervised practice in the application of elementary level teaching methods. Part I. *Corequisite:* EDU 430.

EDU 461 English Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of English. Part I. *Corequisite:* EDU 431.

EDU 462 Mathematics Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of mathematics. Part I. *Corequisite:* EDU 432.

EDU 463 Science Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of science subjects. Part I. *Corequisite:* EDU 433

EDU 464 Social Studies Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of social studies. Part I. *Corequisite:* EDU 434.

EDU 465 Early Childhood Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but deals with teaching on the early childhood level. Part I. *Corequisite:* EDU 430.

EDU 466 Teaching of the Disabled Practicum I (1.2); 3 cr. Same as EDU 460 but deals with the teaching of the handicapped. Part I. *Corequisite:* EDU 356.

EDU 468 Arabic Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of the Arabic language.

EDU 470 Elementary Teaching Practicum II (1.2); 3 cr. Similar to EDU 460. Part II. *Corequisite:* EDU 460.

EDU 471 English Teaching Practicum II (1.2); 3 cr. Similar to EDU 461. Part II. *Corequisite:* EDU 461.

EDU 472 Mathematics Teaching Practicum II (1.2); 3 cr. Similar to EDU 462. Part II. *Corequisite:* EDU 462.

EDU 473 Science Teaching Practicum II (1.2); 3 cr. Similar to EDU 463. Part II. *Corequisite:* EDU 463.

EDU 474 Social Studies Teaching Practicum II (1.2); 3 cr. Similar to EDU 464. Part II. *Corequisite:* EDU 464.

EDU 475 Early Childhood Teaching Practicum II (1.2); 3 cr. Similar to EDU 465. Part II. *Corequisite:* EDU 465.

EDU 476 Teaching of the Disabled Practicum II (1.2); 3 cr. Similar to EDU 466. Part II. *Corequisite:* EDU 466.

EDU 477 Practicum in Teaching Arabic (3.0); 3 cr. Aims to develop students' ability not only to develop lesson plans but also to follow them across all school levels. (In Arabic)

EDU 478 Arabic Teaching Practicum II (1.2); 3 cr. Similar to EDU 468 Part II. *Corequisite:* EDU 468.

EDU 480 Elementary Teaching Internship (1.0); 1 cr. The student will choose a

pedagogical issue, discuss its treatment/application in schools and present a written report.

EDU 481 English Teaching Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on the teaching of English as a foreign language.

EDU 482 Mathematics Teaching Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on the teaching of mathematics.

EDU 483 Science Teaching Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on the teaching of science subjects.

EDU 484 Social Studies Teaching Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on the teaching of social studies.

EDU 485 Early Childhood Teaching Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on early childhood.

EDU 486 Teaching of the Disabled Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on the teaching of the handicapped.

EDU 487 Counseling and Guidance Internship (1.0); 1 cr. Same as EDU 480 but with emphasis on counseling and guidance.

EDU 488 Arabic Teaching Internship (3.0); 3 cr. Same as EDU 480 but with emphasis of the teaching of Arabic.

Undergraduate Courses: English

ENL 001 Intensive English I (20.0); 0 cr. Designed to raise students' level of English to university standards.

ENL 002 Intensive English II (12.0); 0 cr. Designed to improve the students' level of English and to prepare for University. Emphasis on reading, writing, speaking and grammar. Students who score a B or above may register for ENL 110.

ENL 105 College English I (5.0); 5 cr. This course places emphasis on listening, speaking, reading, and writing skills that will enable students to succeed in other courses offered at NDU. The passing grade for this course (non-credit carrying) is C. Students who earn a B or above may register directly in ENL 213.

ENL 107 Freshman English II (5.0); 5 cr. Designed to strengthen student proficiency in academic English. Students will master research techniques. *Corequisite:* ENL 105 or Placement.

ENL 109 Freshman English I for Science (3.0); 3 cr. Aims at facilitating the science students' access to university courses given in the English language.

ENL 110 College English II (3.0); 3 cr. This course bridges the gaps for those students who need to reinforce the basic skills taught in ENL 105 in order to succeed in sophomore-level university courses. Emphasis is on consolidating research techniques and further development of academic reading and writing skills. The passing grade for this course (non-credit carrying) is C. *Corequisite:* ENL 105 or Placement.

ENL 213 Sophomore English Rhetoric (3.0); 3 cr. Aims at developing the use of logic and reasoning in argumentation. A properly documented critical paper is required *Prerequisite:* ENL 105 or ENL 110 or placement.

ENL 223 Communication Arts (3.0); 3 cr. Designed to introduce the student to the art and science of speech making and communicating with others. *Corequisite: ENL 213*

ENL 230 English in the Workplace (3.0); 3 cr. Provides students with the practical technical skills required for professional communication. *Corequisite: ENL 213.*

ENL 301 Introduction to the Study of Language (3.0); 3 cr. An introduction to the study of language; its nature, structure, and development. *Corequisite: ENL 213.*

ENL 311 Phonetics (3.0); 3 cr. Study of articulatory phonetics with emphasis on English sound systems. Practice in phonetic transcription. *Corequisite: ENL 301.*

ENL 312 Morphology (3.0); 3 cr. Word formation and the attempts to formulate a theory of word structure. *Corequisite: ENL 301.*

ENL 313 Syntax (3.0); 3 cr. Analysis of phrase and sentence structure in English and their immediate constituents and types. *Corequisite: ENL 312.*

ENL 314 English Vocabulary (3.0); 3 cr. A detailed study of meaning relationships, with a study of borrowings from other languages. *Corequisite: ENL 312.*

ENL 315 Transformational Grammar (3.0); 3 cr. Involves students in solving exercises in a transformational generative syntax of English. Chomsky's grammar models are included. *Corequisite: ENL 313.*

ENL 316 Fundamentals of Discourse Analysis (3.0); 3 cr. Aims at introducing students to the different structural and communicative levels of discourse: textual organization (reference, cohesion, coherence, etc.), shared beliefs (presupposition, implicature, given-new information structure, etc.) and conversational analysis (turn-taking, interruptions, etc.). *Prerequisite: ENL 301.*

ENL 317 Language Acquisition Theories (3.0); 3 cr. Studies the process by which language develops in humans. Theories concerning first language acquisition as well as second language acquisition are discussed.

ENL 321 Semiotics (3.0); 3 cr. A study of the various patterns of bodily activities, and/or gestures which different English speaking

communities systematically use in order to communicate.

ENL 322 Language and Culture (3.0); 3 cr. A study of cultural matter i.e. customs, traditions, ways of thinking, taboos, etc. which influence 'meaning' in language use.

ENL 324 Creative Writing (3.0); 3 cr. A course in creative writing through practical experiment, discussion, and stylistic study of models. Students will practice various writing genres. *Corequisite: ENL 213*

ENL 411 History of the English Language (3.0); 3 cr. A study of the major phonological, syntactic and lexical developments since 9th century. *Corequisite: ENL 314.*

ENL 412 Phonology (3.0); 3 cr. Studies phonological theory development. Emphasizes generative phonology of English. *Corequisite: ENL 311.*

ENL 413 Advanced English Grammar (3.0); 3 cr. Study of English grammar as dealt with by the traditional grammarians. *Corequisite: ENL 313.*

ENL 414 Sociolinguistics I (3.0); 3 cr. Treats language as a social phenomenon. Linguistic variations, social, and contextual factors are studied. *Corequisite: ENL 314.*

ENL 415 Applied Linguistics (3.0); 3 cr. Studies the application of modern linguistics to teaching. Includes contrastive analysis between English and Arabic and error analysis. *Corequisite: ENL 314.*

ENL 416 Language Theories (3.0); 3 cr. Studies the historical development of linguistic theory with a critical analysis of the competing theories of language. *Corequisite: ENL 411.*

ENL 417 Introduction to Critical Linguistics (3.0); 3 cr. Looks at language from a functional systemic perspective. It utilizes linguistic techniques (tense, reference, deixis, transitivity, voice, theta roles, modality, etc.) in order to uncover implicit ideologies inherent in texts. Texts covered include scientific, religious, literary, political, and advertising texts. *Prerequisite: ENL 301*

ENL 421 Varieties of English (3.0); 3 cr. A systematic analysis of the major features/characteristics of the different 'styles' of English, i.e. commercial, scientific, legal, etc.

ENL 430 Special Topics in Linguistics (3.0); 3 cr. Investigation of special topics of current interest in Linguistics. May be repeated for

credit with change of topic. Prerequisite: ENL 301.

Undergraduate Courses: Interpretation

INT 431 Interpreting: English-Arabic I (3.0); 3 cr. Aims to help students develop competence in consecutive interpretation needed at international congresses. *Prerequisite:* TRA 421.

INT 432 Interpreting: French-Arabic I (3.0); 3 cr. Aims to help students develop competence in consecutive interpretation needed at international conferences. *Prerequisite:* TRA 422.

INT 433 Interpreting: French-English I (3.0); 3 cr. Aims to help students develop competence in simultaneous interpretation needed at international conferences. *Prerequisites:* INT 431 or INT 432.

INT 434 Interpreting: English-Arabic II (3.0); 3 cr. Aims to help students develop competence

in simultaneous interpretation needed at international conferences. *Prerequisite:* INT 431.

INT 435 Interpreting: French-Arabic II (3.0); 3 cr. Aims to help students develop competence in simultaneous interpretation needed at international congresses. *Prerequisite:* INT 432.

INT 436 Interpreting: French-English II (3.0); 3 cr. Aims to help students develop competence in simultaneous interpretation needed at international conferences. *Prerequisite:* INT 433.

INT 480 Interpreter Internship; 1 cr. Practical training in a professional setting at conferences using simultaneous interpretation supervised by the instructor. *Prerequisite:* INT 433.

Undergraduate Courses: Languages

CHI 201 Basic Chinese (3.0); 3 cr. This course introduces students to basic Chinese conversation. Students practice everyday situations and learn how to read elementary Chinese. At the end of the course students will be able to give oral summaries.

CHI 202 Intermediate Chinese (3.0); 3 cr. This course is a continuation of Chinese 201. Emphasis is on improving conversational Chinese in addition to reading and writing.

FRC 105 Freshman French I (5.0); 5 cr. Consolidates students' basic French. Writing on the paragraph level is practiced.

FRC 110 Freshman French II (5.0); 5 cr. Introduces academic essay writing. Summary, paraphrase and note-taking techniques are stressed.

FRC 222 Sophomore French I (3.0); 3 cr. Emphasizes writing critical analysis, and argumentation.

FRC 223 Sophomore French II (3.0); 3 cr. Emphasizes fluency in French. Students will present both extemporaneous and prepared speeches.

FRC 231 French for Business (3.0); 3 cr. This course aims to prepare students with a French education to work in a career setting which uses

the French language as its language of correspondence and negotiation. Students will practice both oral skills of business presentations and the written skills of report writing, resumé preparation, external and internal business correspondence. An aptitude test is obligatory before the "drop and add period."

GEM 201 German I (3.0); 3 cr. Practice in basic spoken German.

GEM 202 German II (3.0); 3 cr. Continuation of GEM 201. Emphasis on writing and reading.

ITL 201 Italian I (3.0); 3 cr. Practice in basic spoken Italian.

ITL 202 Italian II (3.0); 3 cr. Continuation of ITL 201. Emphasis on writing and reading

LTN 201 Latin I (3.0); 3 cr. Explanation of the different characteristics of the Latin language.

LTN 202 Latin II (3.0); 3 cr. Continuation of LTN 201. Emphasis on writing and reading.

SPA 201 Spanish I (3.0); 3 cr. Practice in basic spoken Spanish.

SPA 202 Spanish II (3.0); 3 cr. Continuation of SPA 201. Emphasis on writing and reading.

Undergraduate Courses: Literature

LIR 101 Introduction to Literature in English (3.0); 3 cr. This introductory course is aimed at providing freshman students with an opportunity to appreciate literature and improve their English communication skills. Students will study significant literary genres, including fiction, poetry, and drama. Material covered will be representative of pre-Modern, Modern and Post-Modern literature originally written in English, and will include Women's, Children's, and Minority literature. For Freshman students.

LIR 211 Survey of English Literature I (3.0); 3 cr. Surveys English poetry and prose from the Anglo-Saxon period to the rise of Romanticism.

LIR 212 Survey of English Literature II (3.0); 3 cr. Continuation of LIR 211 from Romantic period to the mid-twentieth century.

LIR 213 Survey of American Literature (3.0); 3 cr. Surveys poetry and prose from the Colonial Period to the mid-19th century.

LIR 214 Introduction to Literary Genres (3.0); 3 cr. Studies the essential features of poetry, fiction, and drama. Selections include representative texts by British, Irish, and American literary figures. *Corequisite:* ENL 213.

LIR 215 Introduction to Literary Criticism (3.0); 3 cr. Presents the basic principles of literary criticism from its beginnings with Plato to the end of the 19th century. *Corequisite:* ENL 213

LIR 216 English Literature to the End of the 19th Century (3.0); 3 cr. Surveys the literary currents and movements of poetry and prose, excluding fiction and drama, from the Anglo-Saxon period to the end of the 19th century. *Corequisite:* ENL 213

LIR 217 American Literature to the End of the 19th Century (3.0); 3 cr. Studies major American authors and movements from the Colonial period to the end of the 19th century. *Corequisite:* ENL 213

LIR 301 Introduction to Fiction (3.0); 3 cr. Studies the formal elements of fiction. Selections will be from British and American writers.

LIR 302 Introduction to Poetry (3.0); 3 cr. Studies the elements of poetry with emphasis on

prosody, imagery, and language. Selections from British and American poets.

LIR 303 Introduction to Drama (3.0); 3 cr. Studies drama as literary genre. Readings include representative selections from the Middle Ages to the Modern Period.

LIR 304 Introduction to Shakespeare (3.0); 3 cr. Studies the major works of Shakespeare.

LIR 305 Novel to the End of the 19th Century (3.0); 3 cr. A study of the development of the novel to 1900. Selections will include representative novels by Defoe, Richardson, Austin, Dickens, the Bronte sisters, Eliot, and Hardy.

LIR 306 Drama to the End of the 18th. Century (3.0); 3 cr. A study of the development of drama from its origins to 1800. Selections will include major representative works.

LIR 311 Twentieth Century Literature (3.0); 3 cr. Studies the major themes in contemporary American literature.

LIR 312 Literary Criticism (3.0); 3 cr. A survey of literary disciplines and methods from Plato to the Modern Age.

LIR 313 Orientalism in English Literature (3.0); 3 cr. This course gives a definition of the term "Orientalism" and traces the germination and development of Oriental scholarship in England ever since the medieval period and up to the nineteenth century.

LIR 314 Creative Literary Writing (3.0); 3 cr. Workshop course in the writing of literary pieces, fictional and poetic, emphasizing discussion of student work.

LIR 315 Modern and Contemporary Novel (3.0); 3 cr. Presents the major works of British and American novelists of the 20th century. Contemporary authors are emphasized.

LIR 316 Lebanese Writers (3.0); 3 cr. Studies major Lebanese writers and their impact on both the East and the West with emphasis on Lebanese immigrant literature.

LIR 323 Orientalism and Post-Colonial Studies (3.0); 3 cr. Defines Orientalism and Post-Colonialism, and traces their germination and development.

LIR 324 Modern and Contemporary Poetry (3.0); 3 cr. Presents the major works of British and American poets of the 20th and 21st centuries. Contemporary authors are emphasized.

LIR 325 Science Fiction (3.0); 3cr. Envisioning the advances of science through the exercise of creative imagination, this course on science fiction traces the evolution of its dominant themes, metaphors, and techniques, and its cultural significance. Material covered includes written text, film, and digital representations.

LIR 411 Shakespeare (3.0); 3 cr. Studies the major dramatic works of Shakespeare and his contemporaries.

LIR 412 Modern and Contemporary Drama (3.0); 3 cr. Presents the major works of British and American playwrights of the 20th and 21st centuries. Contemporary authors are emphasized. *Prerequisites:* LIR 214 and LIR 215.

LIR 413 Restoration and 18th Century Literature (3.0); 3 cr. A study of the poetry and prose, excluding novel and drama, of principal writers from Butler to Johnson

LIR 414 19th Century Literature (3.0); 3 cr. A study of both the Romantic and the Victorian movements and their representative poets from Wordsworth to Arnold.

LIR 415 20th Century Novel and Drama (3.0); 3 cr. Readings and analysis of representative works by principal novelists and playwrights.

LIR 416 20th Century Poetry (3.0); 3 cr. A study of the modern poetic temper as reflected in the works of major British and Irish poets.

LIR 417 Lebanese-American Writers (3.0); 3 cr. A study of the major Lebanese-American writers, known as the Lebanese immigrant writers, and their literary impact.

LIR 418 Comparative Literature (3.0); 3 cr. A study of the concepts of comparative literature and literary theory and their applications to several literary topics and disciplines.

LIR 421 Modern and Contemporary Critical Theory (3.0); 3 cr. Presents the major developments of modern and contemporary critical theory from its beginnings with Formalism, passing by New Criticism and

Structuralism, to the latest developments in Post-Structuralist theory. Latest trends are stressed. *Prerequisites:* LIR 214 and LIR 215.

LIR 422 Urban Studies [“The City as Literary Artefact”] (3.0); 3 cr. Studies the representation of the city as literary artefact based on literary and critical theory paradigms. *Corequisite:* LIR 421

LIR 423 Film and Media Studies (3.0); 3 cr. Presents the juncture between literary theory and the latest developments in film and media studies. *Prerequisites:* LIR 214 and LIR 215

LIR 424 Gender Studies (3.0); 3 cr. Traces themes of gender in literature through the prism of a critical theory that addresses the feminine and masculine.

LIR 425 Women Writers (3.0); 3 cr. Studies the ways female writers have contributed to, challenged, and reshaped the literary tradition. Traces women writers’ choice of themes and genres, the relationship between expectations for women writers and readers and what women wrote, and the changing social role of the woman author writing for herself and for others across several centuries of cultural change.

LIR 426 World Literature (3.0); 3 cr. This course is a critical study of world masterpieces in translation.

LIR 427 Marketing Literature: The Best-Seller (3.0); 3 cr. Literature as marketed through various institutions such as book prizes, media advertising, reviews, and the role of critical assessment in the formation of canons and counter-canons are explored in connection with the phenomenon of the best-seller. Questions such as how and why best-sellers are produced, and how they influence and shape the existing narrative discourse are raised.

LIR 428 Travel Literature (3.0); 3 cr. This course explores the germination and development of travel writing and its influence on cross-cultural awareness; representations of discourse, landscape, and ethnicity; and movements across cultural landscapes through narratives embodied in novels, explorer journals, travelogues, and others.

LIR 430 Special Topics in Literature (3.0); 3 cr. Explores particular authors, topics, themes in depth. May be repeated for credit with change of topic. *Prerequisites:* LIR 214 and LIR 215.

Undergraduate Courses: Physical Education and Sport

PES 201 Introduction to PE (3.0); 3 cr. Nature, aims, motivation and profession. *Corequisite:* ENL 105.

PES 202 History of PE (3.0); 3 cr. Egyptian, Phoenician, Greek and Roman; later developments till the modern age. *Corequisite:* ENL 105.

PES 203 Introduction to Physical Therapy (3.0); 3 cr. The discipline of physical therapy, opportunities, and responsibilities. *Corequisite:* ENL 105.

PES 204 Foundations of Physical Education (3.0); 3 cr. This course examines the historical, philosophical and sociological foundations of sport and serves as an introduction to the physical education, exercise and sport-related fields. The course will also incorporate contemporary trends and issues. This course should be taken during the first academic year.

PES 205 Physical Therapy & Athletic Injuries (3.0); 3 cr. The student will learn a wide variety of rehabilitation and physical therapy techniques in relation to injuries associated with sports activities, their prevention and care. The material will also cover basic first aid and CPR.

PES 250 Motor Development & Motor Learning (3.0); 3 cr. This course explores specific principles of learning and the control of movement and motor skills. Students will also study the neurophysiological activation of muscles, reflexes, etc. during movement.

PES 251 Motor Learning (3.0); 3 cr. Exploration and explanation of materials, methods and mechanisms. *Prerequisite:* PES 201.

PES 252 Athletic Injuries (3.0); 3 cr. Care and prevention, first aid methods (CPR).

PES 301 Anatomical Kinesiology (3.0); 3 cr. An understanding of human anatomy and basic mechanical principles related to efficient movement

PES 311 Basketball (1.0); 1 cr. Basic skills, rules, refereeing, training - theory and practice.

PES 312 Volleyball (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 313 Football (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 314 Handball (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 315 Tennis (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 316 Racquet Sports (1.0); 1 cr. (squash, table-tennis, badminton) basic skills, rules, refereeing, training - theory and practice.

PES 317 Tae-Kwon-Do (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 318 Swimming (2.0); 2 cr. Basic swimming strokes, diving, and swimming competitions.

PES 319 Judo (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 320 Water-Polo (1.0); 1 cr. Basic skills, refereeing, training - theory and practice.

PES 321 Physical Exercise (1.0); 2 cr. (Aerobics, stretching, etc.) basic skills, rules, training - theory and practice.

PES 322 Dancing (2.0); 2 cr. Beginning skills in dance techniques - classical and modern.

PES 323 Weight-lifting (1.0); 1 cr. Basic skills, rules, refereeing, training - theory and practice.

PES 324 Track & Field (2.0); 2 cr. Basic skills, refereeing, training - theory and practice.

PES 325 Gymnastics (1.0); 1 cr. Fundamentals of various types of gymnastics for men and women (classical and rhythmic).

PES 326 Basketball (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching basketball, the rules, and refereeing.

PES 327 Volleyball (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching volleyball, the rules, and refereeing.

PES 328 Football (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of

techniques of teaching football, the rules, and refereeing.

PES 329 Tennis (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching tennis, the rules, and refereeing.

PES 330 Badminton (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching badminton, the rules, and refereeing.

PES 331 Table Tennis (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching table tennis, the rules, and refereeing.

PES 332 Weight-Lifting (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching weight-lifting and the rules.

PES 333 Swimming I (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching the different strokes (freestyle, backstroke, crawl), the rules, and refereeing.

PES 334 Swimming II (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching the different strokes (breaststroke, butterfly), the rules, and refereeing.

PES 335 Track & Field I (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching running (sprint, 100m, 200m, endurance, etc.), the rules, and refereeing.

PES 336 Track & Field II (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and

acquisition of techniques of teaching jumping (long jump, high jump, etc.), the rules, and refereeing.

PES 337 Track & Field III (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching throwing (discus, shot-put, javelin, etc.), the rules, and refereeing.

PES 338 Combat Sports I (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching combat sports (Striking: Tae-Kwon-Do, Karate, etc.), the rules, and refereeing.

PES 339 Combat Sports II (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching combat sports (Grappling: Wrestling, Judo, etc.), the rules, and refereeing.

PES 340 Gymnastics I (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching gymnastics (floor techniques), the rules, and refereeing.

PES 341 Gymnastics II (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching gymnastics (apparatus techniques), the rules, and refereeing.

PES 342 Winter Sports (2.0); 2cr. Emphasis is placed on the development of fundamental skills and acquisition of techniques of teaching skiing and snowboarding. This is an accelerated course that will take place during the winter season over the course of a specific number of trips to ski resorts for intensive practical sessions. Priority is given to Physical Education majors.

PES 343 Pilates & Yoga (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of the fundamental skills of Pilates and Yoga and the techniques of teaching them. Pilates will focus on increasing breathing capacity and improving postural alignment through simultaneous stretching and strengthening

movements. Hatha Yoga is a vigorous cardiovascular workout which increases strength, flexibility, balance, conditioning, and endurance.

PES 344 Cardio Fitness & Toning (2.0); 2cr. This course is designed primarily for physical education majors. Emphasis is placed on the development of fundamental skills in cardiovascular workouts and acquisition of techniques of teaching. The course combines aerobic activities with muscle toning strength movements. Instruction will include the safe and effective use of fitness apparatus including, bench step, physio balls, resistance bands and hand weights.

PES 351 Development of Motor Control (3.0); 3 cr. Neurophysiological activation of muscles, reflexes, etc. during movement.

PES 352 Exercise and Mental Health (3.0); 3 cr. Theories related to mental health consequences of physical activities.

PES 354 Athletic Fitness Training (2.0): 3 cr. This comprehensive course is designed to provide the student with the knowledge and skills needed to develop fitness programs for competitive athletes in different sports. The course focuses on advanced topics in training the aerobic and anaerobic systems, developing strength and power, planning and periodization, in addition to topics in sports nutrition and exercise physiology.

PES 355 Methods in PE (3.0); 3 cr. Planning, strategies, techniques, and methods of teaching PE.

PES 356 Individual & Dual Sports (3.0); 3 cr. Strategies and materials in planning, implementing, and teaching programs.

PES 357 Team Sports (3.0); 3 cr. Strategies and materials in planning, implementing and teaching programs.

PES 358 Physiology of Exercise (3.0); 3 cr. Physiological changes that occur as a result of exercise and work.

PES 360 Consumer Health (3.0); 3 cr. Consumer discrimination of health information, products and services.

PES 361 Sports Policy & Management (3.0): 3 cr. The aim of this course is to have the students expand their knowledge in the economic and political aspects of Sports and Physical

Education. They will be able to identify the roles and responsibilities of a sport manager, agent, and coordinator. Students will also develop their understanding in the planning and management of different sports programs in schools, universities, health clubs, competitive sports clubs, sports federations, sports companies and companies related to sports and athletic fitness.

PES 411 Advanced Prevention and Care (3.0); 3 cr. Of athletic injuries. Prerequisite: PES 252.

PES 412 Administration of PE (3.0); 3 cr. Procedures in secondary education - curriculum development and planning.

PES 413 PE in Elementary Schools (3.0); 3 cr. Development of positive body image, basic movement, and manipulative skills.

PES 414 Alcohol, Tobacco, and Drugs (3.0); 3 cr. Use, misuse and abuse of drugs in relation to all sides of human development.

PES 420 Theory of Fitness Coaching (3.0): 3 cr. This course incorporates the basic components of fitness and wellness in order to better understand human health and well-being. Students will learn to design, implement and evaluate personal fitness and wellness programs. Topics covered will include incorporating exercise into every lifestyle including youth, the elderly, expecting mothers. In addition, nutrition, weight management and stress management will be studied. The latest fitness and wellness research will also be analyzed and interpreted. *Corequisite:* PES 358

PES 421 Coaching (3.0); 3 cr. Leadership, supervision, democracy and behavior in sports; also methods of coaching.

PES 422 Biomechanics (3.0); 3 cr. Improved teaching/coaching through biomechanical and anatomical analyses of sports and related activities.

PES 423 Dynamic Fitness (3.0); 3 cr. Develops positive health practices in physical activity, diet, rest, and relaxation of living.

PES 424 Therapeutic Use of Exercise (3.0); 3 cr. How to use exercise in physical therapy.

PES 425 Adapted Physical Education (3.0); 3 cr. Exercise programs adapted to the needs of the special student.

PES 426 Adapted Physical Fitness (3.0): 3 cr. Designed to promote knowledge and

understanding of the needs and abilities of the special student in addition to the procedures and responsibilities of physical education for the special student. Emphasis will be placed on the development of methods to competently modify physical activities to suit students with various individual needs. *Corequisite:* PES 358.

PES 430 Evaluation of PE (3.0); 3 cr. Nature and use of a variety of tests - practical application and interpretation of results.

PES 461 Teaching Practicum Elementary (3.0); 3 cr. Application of PE and Sport methods in elementary schools.

PES 470 Laboratory Practice in Kinesiology (3.0); 3 cr.

PES 472 Laboratory Practice in Kinesiology II (3.0); 3 cr.

PES 491 Senior Project (3.0); 3 cr. Paper based on scientific research - topic chosen by student and approved by the department.

PES 492 Internship (1.0); 1 cr. Supervised, practical experience in teaching physical education activities or with approved professionals in select athletic training settings. Student must submit final report. *Prerequisite:* Senior standing and department chair approval.

Undergraduate Courses: Translation

TRA 201 Translation Theory and Methodology (3.0); 3 cr. Provides students with a firm foundation of both translation and methodology.

TRA 202 Translation Theory and Methodology II (3.0); 3 cr. Provides students with further understanding of translation methodology. *Prerequisite:* TRA 201.

TRA 211 Translation of English Contemporary Texts (3.0); 3 cr. Familiarizes students with different genres and contemporary literature English/Arabic. *Corequisites:* TRA 201, ENL 213.

TRA 212 Translation of French Contemporary Texts (3.0); 3 cr. Familiarizes students with different genres and features of contemporary literature. French/Arabic. *Corequisite:* TRA 201.

TRA 301 Translation of English Documents (3.2); 4 cr. Develops competence in translating official, legal, and judicial English/Arabic texts. *Corequisite:* TRA 212.

TRA 302 Translation of French Documents (3.2); 4 cr. Trains students in translating official, legal, and judicial French/Arabic texts. *Prerequisite:* TRA 212.

TRA 311 Translation of English Legal Documents (3.0); 3 cr. Trains students in interpreting and translating English and Arabic texts which cover diverse areas of law. *Prerequisite:* TRA 301.

TRA 312 Translation of French Legal Documents (3.0); 3 cr. Trains students in interpreting and translating French and Arabic

texts which cover diverse areas of law. *Prerequisite:* TRA 302.

TRA 331 Mechanical Translation and Interpretation (3.0); 3 cr. Use of modern equipment in the field of translation and interpretation. *Prerequisites:* TRA 301 or TRA 302.

TRA 332 Mechanical Translation and Interpretation (3.0); 3 cr. Further practice in the use of modern equipment in the field of translation and interpretation. *Prerequisite:* TRA 331.

TRA 401 Translation of English Business Texts (3.0); 3 cr. Aims to train students in interpreting and translating English and Arabic texts which cover diverse areas of business. *Prerequisite:* TRA 301.

TRA 402 Translation of French Business Texts (3.0); 3 cr. Trains students in interpreting and translating French and Arabic texts which cover diverse areas of business. *Prerequisite:* TRA 302.

TRA 403 Translation Practicum (3.0); 3 cr. Offers intensive practice in translating contemporary English into French and vice versa. *Prerequisite:* TRA 402.

TRA 411 Translation of English Films (2.0); 2 cr. Focuses on the translation of the literature and language (English and Arabic) of motion pictures and television. *Prerequisite:* TRA 301.

TRA 412 Translation of French Films (2.0); 2 cr. Focuses on the translation of the literature and language (French and Arabic) of motion pictures and television. *Prerequisite:* TRA 302.

TRA 421 Translation of English Literature (2.0); 2 cr. Offers intensive practice in translating English literary and artistic texts into Arabic. *Prerequisite:* TRA 301.

TRA 422 Translation of French Literature (2.0); 2 cr. Offers intensive practice in translating French literary and artistic texts into Arabic. *Prerequisite:* TRA 302.

TRA 431 Translation of Cultural Texts I (3.0); 3 cr. Focuses on intensive practice in translating Arabic cultural texts (historical, religious, philosophical, etc.) into English. *Corequisite:* TRA 421.

TRA 432 Translation of Cultural Texts II (3.0); 3 cr. Focuses on intensive practice in

translating English cultural texts into Arabic. *Corequisite:* TRA 421.

TRA 433 Translation of Cultural Texts III (3.0); 3 cr. Focuses on intensive practice in translating Arabic cultural texts into French. *Corequisite:* TRA 422.

TRA 434 Translation of Cultural Texts IV (3.0) 3 cr. This course focuses on intensive practice in translating French cultural texts into Arabic. *Corequisite:* TRA 422.

TRA 480 Translation Internship (1.0); 1 cr. Practical training in a professional setting supervised by the instructor. *Corequisite:* TRA 422.

Graduate Courses: Education

EDU 610 Educational Research Methods (3.0); 3cr. This course presents key concepts and issues in statistics and their use in educational research, including descriptive and inferential research. Both qualitative and quantitative research methodologies will be explored in relation to improving educational programming. Particular emphasis will be placed on developing skills in applying research to educational decision-making, including conducting needs assessment and analyzing, interpreting, and communicating educational data.

EDU 611 Educational Models and Curriculum Design (3.0); 3cr. This course introduces procedures and plans which incorporate social, political, economic, intellectual, and other values in determining what to include in a curriculum. It also examines the question concerning the nature and history of the "curriculum" concept by looking at both the content and pedagogy of important curriculums employed in the Ancient and Medieval worlds.

EDU 612 Ethics and politics in Education (3.0); 3cr. This course addresses the inevitable tension that exists in education between the realm of politics and the realm of ethics. It examines concepts of power and communication especially as these relate to pressure groups and advisory bodies. The course seeks to overcome this tension by helping students to understand how it is possible to both ethical and politically astute at the same time. *Corequisite:* EDU 610

EDU 613 Education and a Pluralistic Society (3.0); 3cr. This course addresses current issues

that are related to the challenges of education in a pluralistic society. It concentrates upon designing curricula, strategies, and techniques that will best serve to educate students of diverse cultural, social, economic, and religious backgrounds. *Corequisite:* EDU 610

EDU 614 Technology and Education (3.0); 3 cr. This course emphasizes the impact of technology on the total school environment. Students critically analyze the role of technology in instruction and develop strategies for infusing technological resources into the curriculum and the classroom, to improve the teaching-learning process. *Corequisite:* EDU 610

EDU 621 Advanced Educational Psychology (3.0); 3cr. This course presents an in-depth study in advanced psychological theories of learning and the relationship between the theories and instructional strategies. *Corequisite:* EDU 610

EDU 622 Comparative Education (3.0); 3cr. This course analyses educational systems as related to values and cultures; compares the Lebanese educational system to other Arab, European, and American systems.

EDU 623 Advanced Educational Measurement (3.0); 3cr. This course provides an advanced theoretical and practical training in techniques of test construction, evaluation and standardization, validation, reliability, item analysis, norm setting, criterion referencing, selection and interpretation of standardized tests. *Corequisite:* EDU 610

EDU 624 Advanced Methodology (3.0); 3cr. This course presents an in-depth analysis of current methods and techniques of instruction. *Corequisite:* EDU 610

EDU 641 Special Education: Issues and Trends (3.0); 3cr. This course attempts to define both the concept and practice of “special education” by examining its history and evolution in education. It analyzes the contemporary issues and trends in special education and critically examines many of the major “special education” categories.

EDU 642 Special Education: Assessment and Treatment (3.0); 3cr. This course focuses on traditional and contemporary methods of assessment and treatment as related to the standard categories of “special education”.

EDU 643 Motivation in Special Education (3.0); 3 cr. This course examines motivational strategies that help to improve self-image, and that enhance learning and the desire to achieve. Examines motivational strategies regarding self-image, achievement, and the learning process.

EDU 644 The Special Student and The Regular Classroom (3.0); 3cr. This course studies ways of providing foundations for educational partnerships between regular and special educators/students. Examines some of the most recent and innovative methods used to meet the needs of special students.

EDU 651 Leadership for School Improvement (3.0); 3cr. This course defines leadership skills and abilities and develops the dynamics of team functioning, decision-making, problem-solving communicating, and self-improvement.

EDU 652 Instructional Management and its Evaluation (3.0); 3cr. This course studies the management and evaluation of instruction; emphasizes the use of systemic management and evaluation models by teachers.

EDU 653 Administrative Leadership Skills (3.0); 3cr. This course studies the theory of leadership in the different contexts of public and private schools.

EDU 654 School Business Management and Facilities (3.0); 3cr. This course presents guiding principles for developing financial programs. Studies sources of revenue and the management of school funds and facilities.

EDU 661 Technology-oriented Instructional Materials (3.0); 3 cr. This course examines the

production of instructional materials using technology as a tool. It uses basic and advanced techniques, materials and mechanics to accomplish such production.

EDU 662 Issues and Implications of Telecommunications in Education (3.0); 3 cr. This course focuses on creating virtual entities, developing a sense of community using online tools, the developing communication infrastructure. Looks into how new technologies affect pupils in the school, the home, and the future job market. Studies the computer as a communication tool, whether online or offline, and looks into the advantages and disadvantages of utilizing this tool in the modern classroom.

EDU 663 Developing Multimedia Productions (3.0); 3cr. This course presents elements of instructional design and storyboarding techniques to translate instruction into various types of multimedia presentation. Improves skills, knowledge, and creativity used in video production. Assists students to plan, write, produce, and edit for educational and informational productions. Students discuss the potential, limitations, and techniques for effectively using the television, radio, distance learning, telecommunications, and interactive video.

EDU 664 Information Retrieval Through Technology (3.0); 3cr. This course develops search strategies and uses information retrieval technology to access sources. Focuses on developing media center retrieval systems.

EDU 681 Seminar in Teaching Reading (3.0); 3 cr. Recent trends and research in teaching reading to L2 learners are treated. *Prerequisite:* ENL 623.

EDU 682 Seminar in teaching Writing and Composition (3.0); 3 cr. Recent trends and research in teaching writing to L2 learners. *Prerequisite:* ENL 623.

EDU 683 Seminar in Teaching Literature (3.0); 3 cr. Recent trends and research in teaching literature to L2 learners. *Prerequisite:* ENL 623.

EDU 684 Seminar in Teaching ESP Courses (3.0); 3 cr. Recent trends and research in teaching English for professional learner purposes to L2 learners. *Prerequisite:* ENL 623

EDU 699 Thesis 6cr. This course researches an issue directly related to the field of concentration

with a fieldwork study.

Graduate Courses: English Language

ENL 601 Bibliography and Methodology of Research (3.0); 3 cr. Studies the materials, tools, and methods of research.

ENL 602 Intro. to Applied Linguistics and Lang. (3.0); 3 cr. Introduces the fundamental concepts of language learning and teaching.

ENL 603 Linguistics (3.0); 3 cr. A study of major trends and methodologies in linguistics.

ENL 611 Analytical English Grammar (3.0); 3 cr. Analyzes the problems of teaching grammar in light of current developments in the field.

ENL 612 Psycholinguistics (3.0); 3 cr. Emphasizes learners' strategies L1 and L2 acquisition and motivation.

ENL 613 Sociolinguistics II (3.0); 3 cr. Studies the links between sociolinguistic theory and L2 acquisition.

ENL 621 Arabic Linguistics and Sociolinguistics (3.0); 3 cr. Emphasizes Arabic phonology, semantics, and syntax as well as language varieties in the Lebanese community.

ENL 622 Contrastive Analysis and Error Analysis (3.0); 3 cr. A classroom-based study of L1 (Arabic) and L2 (English) along with detailed analysis of Lebanese learners' errors.

ENL 623 Language Teaching Methodology (3.0); 3 cr. Relates language-teaching theory to teaching aural/oral reading and writing skills. *Corequisites:* ENL 612, ENL 613.

ENL 624 Discourse Analysis (3.0); 3 cr. Emphasizes text analysis in order to produce relevant teaching material.

ENL 631 Measurement and Evaluation (3.0); 3 cr. Investigates linguistic tests and measurements and emphasizes test evaluation.

ENL 632 Syllabus and Materials Design (3.0); 3 cr. Studies syllabus design; EAP and ESP course designs are stressed. *Corequisite:* ENL 623

ENL 633 Data Processing in L2 Teaching (3.0); 3 cr. Emphasizes the use and design of computer programming for L2 learning.

ENL 641 Field Methodology (3.0); 3 cr. Considers the theory and practice of training teachers of English as a foreign or second language. *Prerequisite:* ENL 623.

ENL 699 Thesis 6 cr. Research for the master's thesis must show the student's proficiency in approved topics in applied linguistics.

Graduate Courses: English Literature

LIR 601 History of the English Language (3.0); 3 cr. An advanced study of the English language: its history, nature, structure, and development.

LIR 602 Literature (3.0); 3 cr. A thematic, analytic, and generic study of literature.

LIR 611 English Drama to 1590 exclusive of Shakespeare (3.0); 3 cr. A study of English drama, its history and subgenres from early church performance to 1590.

LIR 612 Jacobean and Restoration Drama (3.0); 3 cr. Extensive reading of Jacobean and Restoration drama. *Prerequisite:* LIR 601

LIR 613 Shakespeare (3.0); 3 cr. A comprehensive survey of Shakespeare's plays. *Prerequisite:* LIR 611.

LIR 614 Modern English and American Drama (3.0); 3 cr. Analysis of dramatic works by major British and American playwrights.

LIR 615 Irish Drama (3.0); 3 cr. Analysis of the rise of Irish Drama.

LIR 621 English Literature 1500-1660 excl. of Milton (3.0); 3 cr. Extensive reading in poetry and nonfictional literature.

LIR 622 English Literature 1660-1790 (3.0); 3 cr. Extensive reading in poetry and nonfictional literature.

LIR 623 English Literature 1790-1900 (3.0); 3 cr. Extensive reading in poetry and nonfiction.

LIR 624 Modern British Poetry (3.0); 3 cr. An in-depth analysis of modern British poetry.

LIR 625 Modern American Poetry (3.0); 3 cr. An in-depth analysis of modern American poetry.

LIR 631 English Fiction to 1800 (3.0); 3 cr. A study of the rise of the English novel until 1800.

LIR 632 English Fiction, 1800-1900 (3.0); 3 cr. A study of Victorian fiction.

LIR 633 Contemporary Fiction (3.0); 3 cr. Analysis of contemporary British and American fiction.

LIR 641 American Literature, 1609-1800 (3.0); 3 cr. A study of nonfiction American literature from the early colonial period to the end of the eighteenth century.

LIR 642 American Literature, 1800-1900 (3.0); 3 cr. A study of nineteenth century American literature.

LIR 651 Literary Criticism (3.0); 3 cr. A study of the history of the major trends in literary criticism from Plato to the present.

LIR 652 Literary Trends and Movements (3.0); 3 cr. A study of the major trends and movements in art and literature. *Corequisite:* LIR 651.

LIR 661 Major Literary Figures (3.0); 3 cr. Study of the works of one major British or American author.

LIR 662 World Literature (3.0); 3 cr. A study of major literary works by non-Anglo-Saxon authors.

LIR 682 Seminar in Selected Topics (3.0); 3 cr. An in-depth analysis of selected topics and themes as delineated in literature. *Corequisite:* LIR 651.

LIR 699 Thesis 6 cr. The research for the master thesis must show the student's proficiency in approved topics in literature.

Graduate Courses: Translation

INT 610 Consecutive and "A Vue" Translation ARB/ENL/FRC(3.0); 3 cr. An advanced course with emphasis on language use.

INT 620 Conference I ARA/ENL (4.0); 4 cr. An advanced course with emphasis on U.N. agencies, education and development texts.

INT 621 Conference II ARB/FRC (4.0); 4 cr. Terminology and intensive practice in all aspects of medical translation and relevant scientific concepts.

INT 622 Conference III ARB/ENL (4.0); 4 cr. Terminology and intensive practice in science and technology related to Middle East development.

TRA 610 Advanced English Writing (3.0); 3 cr. Fine points of English writing including: clarity, accuracy style, proofreading and revision.

TRA 620 Linguistics for Translation Students (3.0); 3 cr. The nature and structure of language, its role in society, the theory and methods of linguistics: phonology, syntax, semantics and lexicon as applied in translation.

TRA 621 Comparative Stylistics for Translation (3.0); 3 cr. Presentation and analysis of texts related to interlinguistic transfer. Intensive workshop approach treating

both English/Arabic and French/Arabic texts. *Prerequisite:* TRA 620.

TRA 622 Terminology ARB/ENL (3.0); 3 cr. History of Terminology. The terminologist's task. Terminographics research methods. Use of documentation. Practical work in term research and subject field research.

TRA 630 Computer Assisted Translation (3.0); 3 cr. Computer aids for translation, desktop publishing, terminology management. Machine and machine-assisted translation.

TRA 631 Advanced Translation of Literature ARB/ENL (3.0); 3 cr. Study and analysis of translated works. Translation into Arabic of a work which was not translated before.

TRA 632 Advanced Translation of Literature ARB/FRC (3.0); 3 cr. Study and analysis of translated works. Translation into Arabic of work which was not translated before.

TRA 633 Advanced Legal Translation ARB/ENL (2.0); 2 cr. Translation of highly specialized legal texts.

TRA 634 Advanced Legal Translation ARB/FRC (2.0); 2 cr. Translation of highly specialized legal texts.

TRA 635 Advanced Business & Economic Texts ARB/ENL (2.0); 2 cr. Translation of highly specialized business, economic, and administrative texts.

TRA 636 Advanced Business & Economic Texts ARB/FRC (2.0); 2 cr. Translation of highly specialized business, economic, and administrative texts.

TRA 637 Advanced Medical Translation ARB/FRC/ENL (2.0); 2 cr. Medical terminology and phraseology which would allow the translator to correctly translate medical texts. Relevant basic scientific concepts.

TRA 638 Advanced Translation of Media ARB/ENL (2.0); 2 cr. Translation of various genres of media.

TRA 639 Advanced Translation of Media ARB/FRC (2.0); 2 cr. Translation of various genres of media.

TRA 690 Internship (1.0); 1 cr. A supervised practicum designed to allow students to put their knowledge of translation and terminology to work in an actual translation service.

DEPARTMENT OF MASS COMMUNICATION

Chairperson: *Dr. Joseph Ajami*

Secretary: *Ms. Alice Eid*

Associate Professors

Ajami, Joseph, Ph.D., 1987, Ohio University-Athens, USA

Mass Communication

Fakih, Khalid, Ph.D., 1992, University of Missouri, Columbia, USA

Journalism

Assistant Professors

Darouny, Kamal, M.A., 1986, Sussex College of Technology, UK

Marketing and Advertising

Donerian, Vatche, M.A., 1987, Yerevan State Institute of Dramatic and Fine Arts, Armenia

Theater and TV Directing

Senior Lecturer

Chidiac, May, D.E.S., 1996, Lebanese University, Université Pantheon, Assas, Paris II, France

Journalism

Today we communicate through various means: newspapers, magazines, radio, television, public relations, advertising, photography, and others.

The Department prepares students for a career in mass communication. It offers specific sequences in print, electronic media, and advertising and marketing, leading to the degrees of:

Bachelor of Arts in Advertising and Marketing

Bachelor of Arts in Communication Arts - Concentration Journalism

Bachelor of Arts in Communication Arts - Concentration Radio/TV

Master of Arts in Media Studies with emphasis areas in:

Advertising

Electronic Media

Journalism

The Degree of Bachelor of Arts in Advertising and Marketing

The advertising sequence prepares students for careers in account handling, media planning and management, and creative roles in advertising agencies, in-house advertising, and in the media. The program also incorporates principles of marketing, consumer behavior, marketing policy, strategy, and other marketing courses.

Graduation Requirements

Students pursuing this major must complete a total of 105 credit hours with a minimum cumulative GPA of 2.3/4.0 in their major courses. These 105 credits are divided as follows:

Degree Requirements (105 credits)

General Education Requirements 27 cr.

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements 24 cr.

COA 201, COA 223, COA 252, COA 359, COA 450, PDP 201, STA 201, ARB 212

Major Requirements 44 cr.

ADM 216, ADM 341, ADM 352, ADM 453, ADM 481, ADM 490, FDP 201, FDP 214, COA 270, COA 312, COA 475, ECN 200, MRK 201, MRK 311, MRK 321, MRK 433

Students must choose 6 credits from the following pool: 6 cr.

ADM 351, COA 275, COA 311, COA 315, COA 350, COA 352, COA 360, COA 365, COA 368, COA 369, COA 499, JOU 210, JOU 325, JOU 340, JOU 370, JOU 460, MRK 313, STA 206

Free Electives 4 cr.

**Bachelor of Arts in Advertising and Marketing
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| COA | 201 | Mass Media Essentials | 3 cr. |
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| MRK | 201 | Fundamentals of Marketing | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ADM | 216 | Principles of Advertising | 3 cr. |
| COA | 223 | Speech Communication | 3 cr. |
| COA | 270 | Studio Workshop I | 1 cr. |
| FDP | 201 | Basic Design | 3 cr. |
| COA | 252 | Principles of Public Relations | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----|-------------------|-------|
| PDP | 201 | Basic Photography | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| ADM | 341 | Media Planning and Analysis | 3 cr. |
| ADM | 352 | Adv. Creativity and Copywriting | 3 cr. |
| FDP | 214 | Design for Advertising | 3 cr. |
| ARB | 212 | Advanced Arabic Grammar | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| COA | 359 | Media and Society | 3 cr. |
| COA | 312 | TV Production Techniques | 3 cr. |
| ECN | 200 | Survey of Economics | 3 cr. |
| MRK | 311 | Consumer Behavior | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|---|---|-------------|-------|
| — | — | Pool course | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (16 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| ADM | 453 | Global Advertising | 3 cr. |
| COA | 450 | Mass Communication Research | 3 cr. |
| COA | 475 | Computer Graphics and Video Animation | 3 cr. |
| MRK | 321 | Promotional Strategy | 3 cr. |
| ADM | 481 | Internship | 1 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| ADM | 490 | Senior Study in Advertising | 3 cr. |
| MRK | 433 | Marketing Strategies & Policies | 3 cr. |
| — | — | Free Electives | 4 cr. |
| — | — | Pool course | 3 cr. |
| — | — | GER | 3 cr. |

The Degree of Bachelor of Arts in Communication Arts - Journalism

This sequence prepares students to become reporters in various print media outlets. Students will also augment their journalistic skills with a variety of public relations courses that will broaden their communication skills and improve their career opportunities in different organizational and professional settings. Students will practice and refine their writing, reporting, and other journalistic skills.

Graduation Requirements

Once admitted to the program, students are required to develop competence in both Arabic and English. They must also complete an internship at one of the media outlets in the Lebanese market. Students pursuing this major must complete a total of 104 credit hours with a minimum cumulative GPA of 2.3 / 4.0 in their major requirements. These 104 credits are divided as follows:

Degree Requirements (104 credits)

General Education Requirements 27 cr.

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements 24 cr.

COA 201, COA 223, COA 252, COA 359, COA 450, PDP 201, STA 201, ARB 212

Major Requirements 40 cr.

COA 205, COA 350, COA 352, JOU 210, JOU 310, JOU 314, JOU 325, JOU 340, JOU 370, JOU 410, JOU 450, JOU 460, JOU 480, JOU 490, TRA 201

Students must choose 9 credits from the following pool:

ADM 216, ADM 351, COA 240, COA 270, COA 311, COA 312, COA 360, COA 365, COA 368, COA 369, COA 415, COA 499, POS 212 9 cr.

Free Electives 4 cr.

**Bachelor of Art in Communication Arts - Journalism
Suggested Program (104 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| COA | 201 | Mass Media Essentials | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| PDP | 201 | Photography | 3 cr. |
| ARB | 212 | Advanced Arabic Grammar | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| COA | 223 | Speech Communication | 3 cr. |
| COA | 252 | Principles of Public Relations | 3 cr. |
| ENL | 230 | English in the Workplace | 3 cr. |
| JOU | 210 | Mass Media Language | 3 cr. |
| STA | 201 | Statistics for Social Sciences | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-------------|-------|
| — | — | Pool Course | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| COA | 359 | Media and Society | 3 cr. |
| COA | 350 | Current Issues | 3 cr. |
| JOU | 310 | Newswriting and Reporting I | 3 cr. |
| JOU | 325 | Photojournalism | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| COA | 352 | Mass Media Law (Arabic) | 3 cr. |
| JOU | 340 | PR Techniques | 3 cr. |
| JOU | 370 | Newspaper Production | 2 cr. |
| TRA | 201 | Trans. Theory and Methodology | 3 cr. |
| — | — | Free Elective | 4 cr. |

Summer Session II (7 Credits)

| | | | |
|-----|-----|----------------------|-------|
| COA | 205 | Archive Organization | 1 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (16 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| COA | 450 | Mass Communication Research | 3 cr. |
| JOU | 314 | Specialized Translation | 3 cr. |
| JOU | 410 | Newswriting and Reporting II | 3 cr. |
| JOU | 480 | Journalism Internship | 1 cr. |
| — | — | Pool Course | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|------------------------|-------|
| JOU | 490 | Senior Study | 3 cr. |
| JOU | 450 | Specialized Journalism | 3 cr. |
| JOU | 460 | Case Studies in PR | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Pool Course | 3 cr. |

The Degree of Bachelor of Arts in Communication Arts - Radio and Television

The Radio and Television program at NDU prepares students for opportunities in electronic media production, programming and "on-air" broadcasting, scriptwriting, directing, and film techniques. In addition to a variety of courses in social sciences, English, and other GER courses, the program stresses the skills that will help prepare Radio and Television students in their careers. Introductory and advanced instruction in audio and video techniques are supported by hands-on experiences in our well-equipped studio.

Graduation Requirements

Students pursuing this major must complete a total of 106 credit hours with a minimum cumulative GPA of 2.3 / 4.0 in their major requirements.

The program culminates in a senior project that incorporates the skills acquired during the years spent at NDU. A "C" grade and above on this project is required for graduation. The 106 credits are divided as follows:

Degree Requirements (106 credits)

General Education Requirements 27 cr.

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements 9 cr.

COA 201, COA 359, COA 450

Major Requirements 40 cr.

COA 225, COA 226, COA 272, COA 273, COA 275, COA 276, COA 310, COA 311, COA 312, COA 315, COA 325, COA 330, COA 430, COA 475, COA 480, COA 490.

Students must choose one group of the following concentration areas: 12 cr.

Scriptwriting and Directing: COA 435, COA 445, COA 455, COA 457

Audio and Sound Production: COA 436, COA 446, COA 456, COA 466

Film and Video Techniques: COA 437, COA 447, COA 455, COA 457

Electronic News: COA 415, COA 425, COA 426, COA 427

Students must choose 12 credits from the following pool: 12 cr.

ADM 216, COA 203, COA 204, COA 205, COA 210, COA 213, COA 215,

COA 216, COA 223, COA 252, COA 313, COA 320, COA 350, COA 352, COA 355, COA 360, COA 365, COA 366, COA 367, COA 368, COA 369, COA 370, COA 413, COA 416, COA 417, COA 476, COA 499, CSC 202, CSC 277, CSC 343, FAP 211, FDP 201, FDP 214, JOU 210, JOU 310, JOU 340, JOU 460, MUS 211, MUS 221, MUS 331, MUS 475

Free Electives

6 cr.

**Bachelor of Arts in Communication Arts - Radio Television
Suggested Program (106 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| COA | 201 | Mass Media Essentials | 3 cr. |
| COA | 225 | Lighting I | 2 cr. |
| COA | 272 | Workshop in Audio and Video | 2 cr. |
| COA | 275 | Editing I | 2 cr. |
| ENL | 213 | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| COA | 226 | Lighting II | 2 cr. |
| COA | 273 | Workshop in Audio, Video and Film | 2 cr. |
| COA | 276 | Editing II | 2 cr. |
| ENL | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Pool Course | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|---|-----|-------|
| REG | — | GER | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (18 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| COA | 310 | Scriptwriting | 3 cr. |
| COA | 311 | Radio Programming | 3 cr. |
| COA | 312 | TV Production Techniques | 3 cr. |
| COA | 315 | World Cinema Survey | 3 cr. |
| COA | 359 | Mass Communications and Society | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| COA | 325 | Directing and Acting Skills | 3 cr. |
| COA | 330 | Documentaries & Non Theatrical Film | 3 cr. |
| COA | 475 | Computer Graphics and Video Animation | 3 cr. |
| COA | 480 | Internship for Radio, TV and Film | 1 cr. |
| — | — | Pool Course | 3 cr. |
| — | — | Free Elective | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|---|---|-------------|-------|
| — | — | GER | 3 cr. |
| — | — | Pool Course | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| COA | 430 | Television Drama | 3 cr. |
| COA | 450 | Mass Communications Research | 3 cr. |
| COA | 490 | Senior Study | 3 cr. |
| — | — | Concentration Course | 3 cr. |
| — | — | Concentration Course | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|---|---|----------------------|-------|
| — | — | Concentration Course | 3 cr. |
| — | — | Concentration Course | 3 cr. |
| — | — | Pool Course | 3 cr. |
| — | — | Free Elective | 3 cr. |

The Degree of Master of Arts in Media Studies

The department of Mass Communication offers the Master's of Arts degree in Media Studies with a choice of concentration in the areas of Advertising, Journalism and Electronic Media.

The program provides students with conceptual and analytical tools and practical experience in order to prepare them to pursue careers in communication, to further academic enhancement at the doctoral level, and to help those already working in those fields upgrade their knowledge in their chosen area of study.

Admission Requirements:

The program admits students holding Bachelor degrees in any of the areas listed above as well as those holding degrees in other majors.

Students from non related majors must take and pass a number of preparatory courses (a maximum of three courses) which the department deems necessary to pursue a Master of Arts in Media Studies.

Candidates should have a GPA of 3.0. Applicants with a GPA (no lower than 2.7) may be admitted on a probationary basis. They must achieve a GPA of 3.0 in their first semester in order to continue in the program.

Candidates must also submit three letters of recommendation, an updated C.V., and a personal statement explaining their educational goals and reasons for selecting this area of study. Other university graduate admission requirements may apply as specified in this catalog.

Graduation Requirements:

All students must take a total of 15 credits in the general field of Mass Communication in addition to 15 credit hours in the concentration area. The remaining three credits will be selected from a pool of courses offered by the program.

Students may choose between writing a 6-credit thesis or taking two extra courses offered by the M.A. program which will bring the total to 39 hours required for graduation.

Students must maintain an overall GPA of 3.0/4.0 for the 39 credits required to graduate.

Degree Requirements (39 credits)

I- Thesis Option

Core Courses **15 cr.**
COA 610, COA 652, COA 680, COA 681, and JOU 631

Major Requirements - Advertising **21 cr.**
ADM 620, ADM 621, ADM 650, ADM 651, ADM 681. 15 cr
ADM 690 6 cr.

Major Requirements - Journalism **21 cr.**
JOU 610, JOU 620, JOU 621, JOU 630, JOU 650 15 cr.
JOU 690 6 cr.

Major Requirments - Media **21 cr.**
COA 611, COA 620, COA 630, COA 650, COA 651 15 cr.
COA 690 6 cr.

Free Electives

3 cr.

Note: The 6-hour thesis may be replaced with a major TV, video, or film production for those who select Electronic Media as their area of emphasis. Arrangements will be made with student's advisor and the department.

II- Non-Thesis Option

Students are required to take two extra courses offered by the M.A. program in lieu of the 6-credit Thesis and pass a written comprehensive examination.

Non-Communication Arts Majors

Students will be required to take three additional prerequisite undergraduate courses from the following pool and score a minimum grade of B: ADM 216, ADM 341, ADM 352, COA 201, COA 252, COA 312, COA 450, JOU 310 or other courses.

Courses will be selected in consultation with the advisor and the department's chairperson. Students in this category also may choose either a Thesis or a non-Thesis option as outlined above.

Undergraduate Courses: Advertising

ADM 216 Principles of Advertising (3.0); 3 cr. The field of advertising and its relationship to marketing and mass media. Elements of successful ads.

ADM 341 Media Planning (3.0) 3 cr. Role of media in achieving marketing and advertising objectives. Examines channels of communication. *Prerequisite:* ADM 216.

ADM 351 E-Commerce (3.0) 3cr. The focus is on today's electronic market environment. Students are to develop proficiencies with interactive business and communication technologies and must have access to an e-mail account. *Prerequisite:* CSC 201

ADM 352 Creativity and Copywriting (3.0); 3 cr. Theory and application of the creative side of

advertising. *Prerequisite:* ADM 216. *Corequisite:* FDP 214.

ADM 453 Global Advertising (3.0); 3 cr. History, development and current status of international advertising. *Prerequisite:* ADM 341. *Corequisite:* ADM 352.

ADM 481 Internship in Advertising (1.0); 1 cr. Supervised work in the "real" world of advertising and/or marketing. *Corequisite:* ADM 453.

ADM 490 Senior Study in Advertising (3.0); 3 cr. Involves the conceptualization of an advertising campaign for a "real" client. Includes an exit exam. *Prerequisite:* COA 450.

Undergraduate Courses: Communication Arts

COA 201 Mass Media Essentials (3.0); 3 cr. This course focuses on the study of various types of mass media. It surveys the cultural industries from multiple perspectives, including historical, economic, regulation, and social effects.

COA 203 Make up and Color (0.2) 1 cr. Introduction to the basic principles of makeup for film and video, and to theatrical makeup application as it relates to camera.

COA 204 Set Design (0.2); 1cr. Basic techniques of set design for the stage and the TV. Emphasis on the use of imagery to support the dramatic intent of a particular production. Class project will engage students in using a

variety of mediums to explore how architecture, the arrangement of space, and the elements of design are used dramatically. Also introduces the use of the virtual studio.

COA 205 Archive Organization (1.0); 1 cr. Teaches students the effective use of archive resources in a library setting.

COA 210 Stage Acting (3.0); 3 cr. Teaches acting for the stage, body movement, and basic physical warm-up techniques. Includes exploration of stage space, building characters, and acting situations through improvisation and text work.

COA 213 History of Film (3.0); 3 cr. Overview of history of motion pictures and their artistic, technological, and industrial development. Includes an introduction to major film movements, including their formation, development, aesthetic and thematic qualities, and to leading film artists.

COA 215 History of the Theater (3.0); 3 cr. Study of the history of the western theater from its origin till the 20th century. Major theater movements, schools, and genres, including their formation, development, aesthetic and thematic qualities; includes an introduction to leading theater artists. Also includes an overview of Asian and oriental theater.

COA 216 Sacred Drama: Gods, Muses, and the Storyteller. (3.0); 3 cr. What is the role, if not the duty, of the storyteller, especially when the storyteller is visited by a Muse or supernatural visitor and aided in the artistic adventure? This course answers the question with examples from poetry, theater, film, dance, and art, with a study of the influence of mythology on the performing arts and on arts in general.

COA 223 Speech Communication (3.0); 3 cr. Trains students in researching, organizing and delivering various types of speeches. *Prerequisites:* COA 201.

COA 225 Lighting I (2.0); 2 cr. Theoretical and practical use of lighting in TV studio productions: drama, talk shows, and news. *Corequisite:* COA 272.

COA 226 Lighting II (1.2); 2 cr. Continuation of COA 225 with emphasis on cool lighting and outdoor lighting for video and film camera. *Prerequisite:* COA 225

COA 252 Public Relations (3.0); 3 cr. History, principles and practices of public relations with emphasis on publicity, public opinion and crisis management. *Prerequisite:* COA 201.

COA 270 Studio Workshop I (1.0); 1 cr. Functions and operations of radio and TV equipment. Essential for subsequent R/TV courses. Intended for ADV/MRK students.

COA 272 Workshop in Audio and Video (2.0); 2 cr. Teaches the students image and sound techniques, function, and operations of radio and TV analog and digital equipment.

COA 273 Workshop in Audio, Video and Film (2.0); 2 cr. Continuation of COA 272. A

workshop on sound, camera, and editing equipment, in addition to working with 16mm film and 35mm Camera and the techniques used in shooting and developing films. *Prerequisite:* COA 272.

COA 275 Editing I (2.0); 2 cr. Provides students with the basic skills needed for working on different types of editing systems- Linear and Non-Linear. *Corequisite:* COA 272.

COA 276 Editing II (2.0); 2 cr. Continuation of COA 275. This course provides students with an overview of off-line and on-line video editing, music editing (an ability to apply music choices in creating soundtrack), editing theory, paper editing, working with editors, and possible post production pathways. It will also introduce students to the potential of digital technologies in the creation of television programs, the production of graphics, digital special effects, and the uses of high-end compositing systems. *Prerequisite:* COA 275.

COA 310 Scriptwriting (3.0); 3 cr. Students will study film terms and formats, work with treatment, scenario and shooting scripts, analyze film and television clips, shorts, tapes, and full-length films with emphasis on understanding the writer's perspective. Numerous writing assignments and exercises will be assigned with the intent of developing a student's ability to write for a visual medium. Students must write a script of a short film or video. *Prerequisite:* Junior Standing.

COA 311 Radio Programming (3.0); 3 cr. Audio production concepts and techniques using audio laboratory studio equipment. Practical experience in producing, editing, and other aspects of radio programming emphasized. *Prerequisite:* COA 272.

COA 312 TV Production Techniques (3.0); 3 cr. Introduction to multi-camera studio production and location video recording. Explores directing techniques, operation of studio and control room, conceptualization, basic scriptwriting, audio board operations, and lighting in a studio setting.

COA 313 Art of the Film (3.0) 3 cr. Stylistic analysis of filmmaking, emphasizing the technical and creative process. Screening of different film genres and studying of cinematography techniques.

COA 315 World Cinema Survey (3.0); 3 cr. Overview of world cinema including American

(north and Latin), European, Asian, African, Middle Eastern, and Lebanese cinema. Includes historical review and their influence on global cinema. *Prerequisite:* COA 201 or by permission.

COA 320 The Film Director (3.0); 3 cr. An introductory study on the work of the director, from the scriptwriting to the staging process, including pre-production, production, and postproduction. The work with actors, the managerial responsibilities. *Prerequisites:* COA 273 and COA 276; *Corequisite:* COA 310.

COA 325 Directing and Acting Skills (3.0); 3 cr. Teaches acting and directing actors and the director-actor relationship, with focus on different methods and styles of acting, in relationship to the script and the characters. Includes building of a character, creating a role, and performing in front of an audience and in front of a camera. *Corequisite:* COA 310.

COA 330 Documentary and Non – Theatrical Film (3.0); 3 cr. A study of non – theatrical films, such as documentary, news, educational and public relations films, video clips, etc. Involves shooting and editing reports and a video clip. Students will also produce a short documentary by the end of the semester. *Corequisite:* COA 312

COA 352 Censorship and Responsibility in Media and Film (3.0); 3 cr. A study of different types of censorship and their relationship to moral codes, religions, politics, laws, and society. Overview of media law in Lebanon. *Prerequisite:* COA 201.

COA 355 Mass Media in Lebanon and the Middle East (3.0); 3 cr. Communication in Lebanon and the Middle East; cultural, economic, political, and social influences. Role of communication media in affecting social change in different countries. *Prerequisite:* COA 201.

COA 359 Mass Media and Society (3.0); 3 cr. Interactive relationship between media and society. Relationships among the media, the individual, the group, society, and the culture. *Prerequisite:* COA 201

COA 360 Media Ethics (3.0); 3 cr. Analysis of ethical issues pertaining to the media: dubious methods in news gathering, conflict of interests, invasion of privacy, and stereotyping among others. *Prerequisite:* COA 201.

COA 365 Talk Shows (3.0); 3 cr. Preparing, hosting, and executing a TV program that deals with various issues in front of a live audience. *Corequisite:* COA 312 or by permission.

COA 366 Diction and Presentation (3.0); 3 cr. Arabic and English. In this course students will learn how to speak for different types of programs. They will do exercises on pronunciation in Arabic and English, and they will learn the phonetics of both languages.

COA 367 Foreign Correspondence (3.0); 3 cr. The role of the foreign correspondent in news gathering. The history of foreign correspondence, techniques, roles, and other tips. *Prerequisite:* COA 201.

COA 369 Selected Topics I (3.0); 3 cr. Rotating topics in audio, video and, film production. Representative topics include music for film and television, digital audio effects, documentary production, lighting for cinematography, and directing for film. Other topics may be recommended by the department. *Prerequisite:* COA 201 or by permission.

COA 370 Selected Topics II (3.0); 3 cr. Individual study topics on audio, video, and film production to be proposed by students or instructors, and approved by the department prior to commencing work. Other non-technical topics may be offered. *Prerequisite:* COA 201 or by permission

COA 413 Film Movements and Genres (3.0); 3 cr. Analysis of major international film movements such as: German Expressionism, Italian New-Realism, Latin American and, and New Chinese Cinema. Analysis of specific film genres such as: western, comedy, musical, and documentary. *Prerequisite:* COA 315 or by permission.

COA 415 Broadcast News Operations (3.0); 3 cr. Gathering, preparation, and presentation of a generic broadcast news product. Teaches the student the process of directing news in all its phases, including equipment operation and crew management (camera operators, anchors, VTR operator, prompter, character generator, blue screen etc.). *Prerequisite:* COA 312 or by permission

COA 416 Film Analysis and Aesthetics (3.0); 3 cr. Structure, composition, design, and effect are studied through close frame-by-frame examination of motion pictures. Focuses on a particular director (Godard, Hitchcock, Altman,

Losey, Bergman...), period, or style (film noir, suspense....) and studies how meaning is structured and perceived in the screen image. Includes close examination of the ways scholars, critics, and filmmakers have explained and discussed the materials used to make movies and how these materials may be used to construct films and produce meaning. Experiences of the viewer, critic, and community are discussed in addition to the role of aestheticians and theorists. *Prerequisite:* COA 315 or by permission.

COA 417 Comparative Cinema (3.0); 3 cr. Compares trends, genres, and directors of various nations. Investigates several genres: the documentary, science-fiction, dramatic, comic, political, and romantic films. Covers early animation and special effects, serials, avant-garde, surrealism, "poetic realism," fantasy, etc. *Prerequisite:* COA 315 or by permission

COA 425 Writing and Reporting for the Electronic Media (3.0); 3 cr. Principles and practices of news-writing and reporting for the electronic media. Includes an overview of the major forms of writing, news styles, news gathering, and news evaluation. *Prerequisite:* Senior Standing.

COA 426 Electronic News Gathering (3.0); 3 cr. Shooting, editing and producing for the electronic news media. Lecture and lab course provides students with experience as producers and directors for news programs. Also includes an overview of ENG equipment as well as EFP (Electronic Field Production) techniques and equipment and digital video production on location. *Prerequisite:* COA 312

COA 427 Media and Information Society (3.0) 3 cr. Introduces the latest technologies in the news field; online news reporting, web journalism, blogging; electronic publishing, design and techniques of electronic publishing using a journalistic approach. *Corequisite:* COA 426.

COA 430 TV Drama (3.0); 3 cr. Involves the conception of shooting, directing, and editing of TV dramatic production. Shooting live to tape drama and sitcoms with live audience. *Prerequisite:* COA 310 and COA 312.

COA 435 Writing for TV and Film (3.0); 3 cr. An advanced inquiry into the art of investigating, structuring, and writing original screenplays. Mastery of researching and developing authentic characters, as well as generating solid story plot devices using

professional screenplay style. Different film genres and story techniques will also be explored, in addition to the process of literary adaptation and how to adapt a play, novel, or short story into a feature-length film. *Prerequisite:* COA 310.

COA 436 Advanced Radio Production (3.0); 3 cr. Advanced training in the art and technique of audio production in radio. Includes producing radio programs. *Prerequisite:* COA 311.

COA 437 Lighting for Film (3.0); 3 cr. Operations with camera, lighting, and grip equipment as they apply to different film forms (narrative, documentary, experimental), genres, and styles. In-class and outside class group assigned filming exercises. Film screenings and field trips to complement class lectures, demonstrations, and discussions. *Prerequisite:* COA 226.

COA 445 Directing Actors for Camera (3.0); 3 cr. Directing actors through exploration of equipment used in media performance: blue screen acting, ear prompting, teleprompting, and microphone applications in voice performance and voice over. Continued exploration and skill-building of techniques used in performance before the camera including but not limited to advanced character development, make-up techniques, and special problems in character preparation for feature film. *Prerequisite:* COA 325.

COA 446 Theory of Sound (3.0); 3 cr. This course focuses on sound theory, sound as media, and the relationship between sound and image. These topics will be examined through reading and writing assignments, screenings and listening sessions, in-class presentations, recording assignments. Concepts of different theorists in sound will be introduced to students. Workshops on sound recording and sound editing may be held during the second half of the semester based on the technical requirements of student projects. This class encourages a critical, creative approach to the medium, non-traditional solutions, and awareness of the history of sound technology and media production. *Prerequisite:* COA 311, senior standing.

COA 447 Lighting Design and Techniques (3.0); 3 cr. Lighting design for stage and video design, organization, graphic representation of lighting for stage, video and film production. Laboratory work on actual stage presentations, video productions, and film shoots. Venues

include performing arts stages, video studios, and sound stages along with shooting on location. *Prerequisite:* COA 226

COA 450 Mass Communication Research (3.0); 3 cr. Research design, data collection analysis, and measurement of public opinion, and hypothesis testing of media-related issues.

COA 455 Directing Techniques and Aesthetics (3.0); 3 cr. An advanced study of the job of a director, beginning with an artistic identity, to the screen craft and how to deal with the directing process through all the production stages. *Prerequisites:* COA 310, COA 312.

COA 456 Sound Design and Postproduction (3.0); 3 cr. A comprehensive technical examination of the role of sound as an emotional motivator and major storytelling component in both fiction and nonfiction films. Covers location and sound recording, track building, mix preparation, music editing and scoring, and the spectrum of postproduction technologies. Introduces current digital innovations in the field and in postproduction, and provides a workshop for solving ongoing editing and track-building problems. *Corequisite:* COA 446.

COA 457 Cinematography (3.0); 3 cr. Cinematographic techniques for film and video. Analysis of cinematographic styles, including qualities of camera movement and composition, lenses, and lighting as expressive tools. Explores aesthetics, techniques, and responsibilities of the cinematographer. Hands-on experience shooting scenes with film and video cameras, lighting, and grip equipment. *Prerequisite:* COA 226.

COA 466 Sound for Animation (3.0); 3 cr. The principles of sound track design to accompany the unique properties of the animated image. Techniques of musical

synchronization and lip-synched character. *Corequisite:* COA 475.

COA 475 Computer Graphics and Video Animation (3.0); 3 cr. Applying computer graphics in developing video animation projects. Includes the use of computer animation as applied to a variety of art media. Principles of movement and timing, lighting, cinematography, and multi-plane dimensionality as applicable to computer and traditional drawn animation. Drawn representation of telephoto or wide-angle lens perspective and depth of field. *Corequisite:* COA 312.

COA 476 Compositing (3.0); 3 cr. Explores basic and intermediate aspects of compositing, animating, and creating special effects and motion graphics with compositing software. The student learns to add effects, enhance the look of existing footage, and create entire animations from inception. Practical application and use of compositing software in the commercial world. *Corequisite:* COA 475 or by permission.

COA 480 Internship for Radio, TV, and Film; 1 cr. Supervised off-campus work experience in a job that relates to the student's career objective. *Prerequisite:* Senior Standing.

COA 490 Senior Study; 3 cr. Overview of film production phases and procedures. Senior project presentation. May vary according to concentration choice. *Prerequisite:* senior standing. A "C" grade or above is required.

COA 499 Independent Study (3.0); 3 cr. Advanced topics in mass communication chosen to meet individual student needs and interests, supervised by assigned instructors. *Prerequisite:* senior standing or permission by the head of the department.

Undergraduate Courses: Journalism

JOU 210 Mass Media Language (3.0); 3 cr. Principles of effective writing with emphasis on grammar, structure, and style. *Corequisite:* ARB 212 or ARB 231.

JOU 310 News Writing and Reporting I (3.0); 3 cr. Fundamentals of effective writing for the mass media. Also reporting techniques and information gathering. *Prerequisites:* JOU 210 and COA 201.

JOU 314 Specialized Translation (3.0); 3 cr. Provides students with skills needed to handle

English language copy. *Prerequisites:* TRA 201 and JOU 210.

JOU 325 Photojournalism (3.0); 3 cr. Role of the photographer as a communicator and a member of the editorial team. Photo assignments required. *Prerequisites:* PDP 201 and JOU 210

JOU 340 Public Relations Techniques (3.0); 3 cr. The use of different communication tools in reaching specific audiences. *Prerequisite:* COA 252.

JOU 370 Newspaper Production (2.0); 2 cr. Students must produce a campus publication. *Prerequisite:* JOU 310.

JOU 410 Newswriting and Reporting II (3.0); 3 cr. Practical problems encountered in real situations in covering beats, interviewing techniques and writing headlines. *Prerequisite:* JOU 310.

JOU 450 Specialized Journalism (3.0); 3 cr. Different areas of journalism such as foreign affairs, sports, life-style, environment, and others. In Arabic. *Prerequisite:* JOU 310.

JOU 460 Case Studies in Public Relations (3.0); 3 cr. Evaluation and analysis of PR campaigns in real-life situations. *Prerequisite:* COA 252.

JOU 480 Journalism Internship (1.0); 1 cr. Practical training in a professional print media outlet.

JOU 490 Senior Study (3.0); 3 cr. A major final project in print journalism that studies in-depth an area in the field.

Graduate Courses: Media Studies

ADM 620 Advertising & Marketing Management (3.0); 3 cr. The course examines the general array of agency personnel and studies the functions of each department including the duties and responsibilities of key decision-makers in the agency.

ADM 621 Seminar in Integrated Marketing Communication (3.0); 3 cr. The course applies the theories of integrated communication tools such as marketing, advertising, public relations, e-commerce, and others. It also looks at IMC's usage, management, and limitations.

ADM 650 Advanced Media Planning (3.0); 3 cr. Discussion of up-to-date media planning theories and concepts and their implications in the modern media systems. Studies the effects of horizontal and vertical media planning.

ADM 651 Advanced Creative Strategy in Advertising (3.0); 3 cr. Social science findings as guides for effective creative process by devising advertising message content using various creative approaches. Advanced writing and production of advertising messages for various media. Use of consumer behavior concepts in shaping advertising messages and improving media selection.

ADM 660 Independent Study (3.0); 3 cr. Topic takes into consideration the instructor's specialization and the student's interest. Requires completion of research paper. *Prerequisite:* written proposal and approval of instructor.

ADM 681 Seminar in Advertising and Society (3.0); 3 cr. Role of advertising in cultural, economic, and communication contexts. Actual campaigns and their implications in the modern world. Also includes the study of linguistics and semantics in advertising.

ADM 690 Thesis (6.0); 6cr. Specific research on a significant topic selected by the candidate upon consultation with advisor. *Prerequisites:* COA 652 and passing a minimum of 21 credit hours.

COA 610 Theories of Mass Communication (3.0); 3 cr. Studies various theories that explain the origins, developments, uses, abuses and effects of communication messages and explains the relationship between theoretical concepts and their application. Areas of study include media and violence, agenda-setting theory, uses and gratifications approach, etc.

COA 611 Issues in Communication Technology (3.0); 3 cr. Study of new technology and its actual and potential repercussions on media messages, the communication process and on society at large. Issues include restructuring and redefining the mass media and the characteristics of the emerging technologies.

COA 620 Comparative Broadcasting (3.0); 3 cr. A study of global electronic media systems. A comprehensive examination of rules governing the regulations and flow of programming between nations. Also study of the new satellite and transmission systems.

COA 630 Broadcast Station Management (3.0); 3 cr. Study of the problems of management, programming, sales, promotion, and marketing. Exploration of issues such as decision-making, news evaluation, budgeting in both commercial and noncommercial broadcast media.

COA 631 Media and Politics: (3.0); 3 cr. The impact of mass media on the political process especially in democratic societies. The interplay

of influence between the two. Role of media consultants is also examined. *Prerequisite:* COA 610.

COA 650 Advanced Video Production (3.0); 3 cr. Examination of aesthetic decisions and skills in the planning and production of television programs: initial research through writing, to final production. Students are expected to develop and execute several programs for television.

COA 651 Advanced Electronic Newsgathering and Reporting (3.0); 3 cr. Real life experiences in gathering, writing, editing, and presenting news for the electronic media. Also, website reporting and various sources of news and information will be examined. *Prerequisite:* COA 650.

COA 652 Advanced Research Methods in Mass Communication (3.0); 3 cr. Techniques for study of communication content and messages, audiences and effects. Emphasis on research methods, and the data gathering, sampling and the application of those methods in Mass Communication and Advertising. *Prerequisite:* COA 610.

COA 660 Independent Study (1.0 - 4.0); 1 cr.-4 cr. Topic takes into consideration the instructor's specialization and the student's interest. Requires completion of research paper. *Prerequisite:* written proposal and approval of instructor and Guidance Committee.

COA 680 Seminar in Mass Communication Law and Ethics (3.0); 3 cr. Study of legal and ethical controls of media such as government's regulations of the media and other Lebanese "taboos." Codes of ethics and traditional societal or self-imposed guidelines that govern the performance of the media will be addressed. Incorporated in this course is the Catholic church's stand on the legal and ethical functions of the mass media. *Corequisite:* COA 610.

COA 681 Seminar in Cross-Cultural Communication (3.0); 3 cr. The study of the impact of culture, norms, languages and values on the shaping and the perception of communication messages within and across national and international boundaries. Issues may include verbal and non-verbal communication, and others. *Prerequisite:* COA 610.

COA 682 Seminar on the Lebanese Media (3.0); 3 cr. An in-depth survey of the Lebanese

media (both print and broadcast). Areas include history, economics, and trends. The course examines current figures and issues peculiar to the Lebanese media.

COA 690 Thesis (6.0); 6 cr. Specific research on a significant topic in the field selected by the candidate upon consultation with advisor. *Prerequisites:* COA 652 and passing a minimum of 21 credit hours.

JOU 610 Newsroom Management (3.0); 3 cr. Internal management of newspaper operation, status of personnel, and effects of technological developments. Defining objectivity and improving news coverage.

JOU 620 The Art of Interviewing (3.0); 3 cr. Techniques and tools of gathering information from news sources.

JOU 621 Editorial Operation (3.0); 3 cr. Discussion of decision-making process in the newsroom. Various elements influencing the day-to-day operation of the print media. Roles of owners, and gatekeepers are examined. *Corequisite:* JOU 610.

JOU 630 PR Programs and Campaigns (3.0); 3 cr. Overall planning and operation of PR programs by various industries and institutions. Analysis and discussion of specific problems in real-life cases.

JOU 631 International Public Relations (3.0); 3 cr. Discussion of the role of public relations in the new age of global marketing and communication. Issues include global campaigns, international corporate PR, and cyberspace PR.

JOU 650 Advanced Reporting and Newswriting (3.0); 3 cr. In-depth reporting: theory and practice. Investigative and interpretative reporting. Also examines most recent means of gathering information and data needed to produce thorough, well-written journalistic work. *Corequisite:* JOU 620.

JOU 680 Seminar in Selected Topics (3.0); 3 cr. Discussion of various topics such as freedom of press, media and gender, media and religion, and other topics.

JOU 690 Thesis (6.0); 6 cr. Specific research on a significant topic selected by the candidate upon consultation with the advisor. *Prerequisites:* COA 652 and passing a minimum of 21 credit hours.

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES (SBS)

Chairperson: *Dr. Mansour Eid*

Secretary: *Ms. Christine Noufaily*

Professor

¹**Rihani, Ameen A.**, Ph.D., 1996, Lebanese University, Lebanon

Bilingual Literature

Associate Professors

Alam, Edward, Ph.D., 1996, University of Utah, USA

Philosophy

Eid, Mansour, Doctorate, 1985, Université Saint-Joseph, Lebanon

Arabic Language and Literature

Salameh, Doumit, Ph. D., 1988, St. Louis University, USA

Philosophy

Assistant Professors

El- Doaihi, Jamil, Ph.D., 1998, Sydney University, Australia

Arabic Literature

El Khoury, Akram, Ph.D., 2006, Pontificia Universitas Lateranensis-Rome, Italy

Canon Law

Fahed, Ziad, Ph.D., 2001, Université Catholique de Lyon, France

Théologie Canonique

Karam, Clovis, Ph.D., 1984, Université Catholique de Lyon, France

Scholastic Philosophy

¹**Matar, Suhail**, C.A.P.E.S., 1969, Lebanese University, Lebanon

Arabic Language and Literature

Yaacoub, Youssef, Ph.D., 1990, Loyola University of Chicago, USA

Philosophy of Education/Minor Counseling Psychology

Visiting Faculty Member

Akl, Said, Poet, and Philosopher

Senior Lecturers

Abou-Jawdeh, Simon, C.E.P., Vienna, D.E.S., 1992, Lebanese University, Lebanon

Psychotherapy, Clinical Psychology

Wehbe, Boulos (Marwan), M.A., 1981, American University of Beirut, Lebanon.

Middle Eastern Studies

The Social and Behavioral Science (SBS) Department offers a BA and an MA in Arabic Language and Literature, and a BA in Psychology with three concentrations – Clinical, Educational, and Industrial. In addition to these two majors, the SBS Department offers:

- A cluster of undergraduate level courses, otherwise known as General Education Requirement (GER) courses - which are necessary for a comprehensive university education. These courses cover disciplines in social and behavioral sciences, the purpose of which is to develop a student's general culture..
- A four week Summer Arabic Program which is intended for foreign students who want to learn Arabic.

¹ On tenure appointment

The Degree of Bachelor of Arts in Arabic Language and Literature

Advisor: *Eid, Mansour*, Ph.D.,

The Bachelor degree in Arabic Language and Literature covers the following areas: syntax, etymology, contemporary and classical literary works, comparative literature, along with emphasis on Lebanese writers' contribution to Arab and world literature. Methods of criticism are also highlighted.

Admission Requirements

In addition to the University admission requirements, candidates must take the Arabic Entrance Test (AET).

Graduation Requirements

Students enrolled in the degree of Bachelor of Arts in Arabic Language and Literature must complete a total of 103 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and major requirements. These courses are divided into:

Degree Requirements (103 credits)

General Education Requirements

ARB 211 or ARB 221 or ARB 224 or ARB 231, CSC 201, ENL 213, ENL 230, HIT 211, ENS 201 or NTR 201, REG 212 or REG 213

21 cr.

Core Requirements

ARB 201, ARB 213, ARB 214, ARB 215, ARB 216, ARB 301, ARB 311, ARB 312, ARB 313, ARB 314, ARB 321, ARB 323, ARB 331, ARB 333

39 cr.

Major Requirements

ARB 317, ARB 318, ARB 332, ARB 334, ARB 335, ARB 336, ARB 415, ARB 416, ARB 421, ARB 422, ARB 423, ARB 424, ARB 425

40 cr.

Free Elective

ENL 301 or ARB 212

3 cr.

Bachelor of Arts in Arabic Language and Literature
Suggested program (103 credits)

Fall Semester I (14 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| ARB | 211 | Appreciation of Arabic Literature | 3 cr. |
| ARB | 201 | Introduction to Arabic Syntax | 3 cr. |
| ARB | 213 | Literary Genres | 2 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (14 Credits)

| | | | |
|-----|-----|--|-------|
| ARB | 214 | Rhetoric and Metrics | 3 cr. |
| ARB | 215 | Literary Schools | 2 cr. |
| ENL | 230 | English in the Workplace | 3 cr. |
| ARB | 301 | Introduction to Comparative Literature | 3 cr. |
| ARB | 311 | Arabic Grammar and Dic. | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|------------------|-------|
| ARB | 216 | Research Methods | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| ARB | 312 | Arabic Philology | 3 cr. |
| ARB | 313 | Linguistics | 3 cr. |
| ARB | 314 | The Modern Movement in Lebanon | 3 cr. |
| ARB | 317 | Modern Arabic Literature in Lebanon | 3 cr. |
| — | — | Elective | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| ARB | 318 | Lebanese Lit. Overseas | 4 cr. |
| ARB | 321 | Ancient Western Literature | 2 cr. |
| ARB | 323 | Western Renaissance Literature | 3 cr. |
| ARB | 331 | Pre-Islamic & Islamic Literature | 3 cr. |
| ARB | 333 | Poetry in the Abbasid Era | 3 cr. |

Summer Session II (5 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| ARB | 332 | The Holy Koran & Literature | 2 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (16 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| ARB | 334 | Prose in the Abbasid Era | 3 cr. |
| ARB | 335 | Andalusian Literature | 3 cr. |
| ARB | 336 | Lit. of the Modern Ar. Renaissance | 4 cr. |
| ARB | 415 | Arabic Modernization Movement | 3 cr. |
| ARB | 416 | Pioneers of Arabic Lit. | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| ARB | 421 | English Lebanese Lit. | 3 cr. |
| ARB | 422 | French Lebanese Lit. | 3 cr. |
| ARB | 423 | The Evolution of the Critical Move. in Leb. | 3 cr. |
| ARB | 424 | Experimental Lebanese Lit. | 3 cr. |
| ARB | 425 | Colloquial Literature | 3 cr. |

The Degree of Master of Arts in Arabic Language and Literature

The Master of Arts in Arabic Language and Literature offers a large selection of courses designed to deepen the level already attained at the undergraduate level. Both ancient and modern prose and poetry are studied in depth.

Admission Requirements

In order to be admitted to the Master program, candidates must fulfill the following:

1. Hold a Bachelor degree in Arabic Language and Literature from a recognized institution of higher learning
2. Comply with NDU rules and regulations for graduate work
3. Sit for the Arabic Entrance Test offered by NDU (AET).
4. Provide three letters of recommendation

Graduation Requirements

Students seeking the degree of Master of Arts in Arabic Language and Literature must meet the University graduation requirements and complete a total of 30 credits with a minimum overall average of 3.0/4.0. Courses are divided into:

Degree Requirements (30 credits)

Major Requirements **24 cr.**
ARB 601, ARB 611, ARB 612, ARB 613, ARB 614, ARB 621, ARB 699

Free Elective **6 cr.**
ARB 622, ARB 623, ARB 624, ARB 631, ARB 632, ARB 633, ARB 634, ARB 641

The Degree of Bachelor of Arts in Psychology

Advisor: *Yaacoub, Youssef*, Ph.D.,

The psychology program offered by the SBS Department at NDU provides students with three essential fields of concentration:

- Clinical Psychology
- Educational Psychology
- Industrial Psychology

The psychology program at NDU is specifically developed to promote the ability to deliver service skills within the community. At the BA level, students will not be qualified to function independently as a private psychologist; however, they will be able to cope with work in a community setting.

The program will train a student to be aware of problems that exist and of the possible approaches to resolve them. Using psychological assessment, strategies, and methods of intervention, the student will work within the community, continuously evaluating the ways to create better adjustment within it in relation to psychological, physical, social, political, and religious domains.

Admission Requirements

For a student to be admitted to the program, a grade of "C" or above is required in the following courses: PSL 201, SOL 201, STA 201, ENL 213, ENL 223.

Graduation Requirements

In order to graduate, a student must meet the General Education Requirements, and successfully complete a total of 106 credits with a minimum GPA of 2.0/4.0, and a

minimum average of 2.3/4.0 in the major and concentration requirements. Electives may be chosen from other concentration courses within the major of Psychology or from the different majors offered by the University

**Degree Requirements
(106 credits)**

General Education Requirements **27 cr.**

Communication Skills

ENL 213, ENL 230

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of Cultural Studies.

Social Science Studies

3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.

Basic Science Studies

6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Major Requirements

45 cr.

PSL 201, SOL 201, MAT 202, STA 201, PSL 211, PSL 217, PSL 317, PSL 319, PSL 321, PSL 411, PSL 413, PSL 415, PSL 417, PSL 481, PSL 491

Free Electives

4 cr.

Concentration – Clinical

30 cr.

PSL 310, PSL 315, PSL 213, PSL 230, PSL 382, PSL 484, PSL 215, PSL 345, PSL 320, PSL 323

Concentration – Industrial

30 cr.

PSL 322, BAD 201, PSL 362, PSL 323, PSL 332, BAD 317, PSL 386, PSL 215, BAD 427, PSL 424

Concentration – Educational

30 cr.

PSL 313, PSL 315, PSL 213, PSL 324, EDU 422, EDU 350, EDU 330 (EDU 331, EDU 332 or EDU 333), PSL 385, EDU 355, PSL 345

**Bachelor of Arts in Psychology, Clinical Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|----------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| MAT | 202 | Mathematics for Arts | 3 cr. |
| CSC | 201 | Computers & their use | 3 cr. |
| SOL | 201 | Introduction to Sociology | 3 cr. |
| PSL | 201 | Introduction to Psychology | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|--------------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| STA | 201 | Stat. for Social Sciences Using SPSS | 3 cr. |
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| PSL | 217 | Psychology of Personality | 3 cr. |
| PSL | 413 | History and Systems of Psychology | 3 cr. |

Summer Semester I (6 cr.)

| | | | |
|---|---|-------------------------------|-------|
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 315 | Sensation and Perception | 3 cr. |
| PSL | 317 | Cognitive Psychology | 3 cr. |
| PSL | 319 | Abnormal Psychology | 3 cr. |
| PSL | 310 | Psychology of the Family | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|--------------------------------|-------|
| PSL | 213 | Psychology of Learning | 3 cr. |
| PSL | 321 | Experimental Psychology | 3 cr. |
| PSL | 230 | Theories of Psychotherapy | 3 cr. |
| PSL | 415 | Intelligence Testing | 3 cr. |
| — | — | General Education Requirements | |

Summer Semester II (9 cr.)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 382 | Practicum I: Clinical | 3 cr. |
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|---|-------|
| PSL | 411 | Stress: Causes, Consequences and Management | 3 cr. |
| PSL | 484 | Practicum II: Clinical | 3 cr. |
| PSL | 215 | Social Psychology | 3 cr. |
| PSL | 481 | Undergraduate Seminar in Psychology | 3 cr. |
| PSL | 323 | Deviance | 3 cr. |

Spring Semester III (16 cr.)

| | | | |
|-----|-----|------------------------------|-------|
| PSL | 417 | Personality Assessment | 3 cr. |
| PSL | 491 | Special Topics in Psychology | 3 cr. |
| PSL | 345 | Counseling Psychology | 3 cr. |
| PSL | 320 | Psychopathology | 3 cr. |
| — | — | Free Elective | 4 cr. |

**Bachelor of Arts in Psychology - Educational Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|-------------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| MAT | 202 | Mathematics for Arts | 3 cr. |
| CSC | 201 | Computers and their Use (GER) | 3 cr. |
| SOL | 201 | Intro. to Sociology | 3 cr. |
| PSL | 201 | Intro. to Psychology | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|-----------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| STA | 201 | Stat. for Soc. Scs. Using SPSS | 3 cr. |
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| PSL | 217 | Psychology of Personality | 3 cr. |
| PSL | 413 | History and Systems of Psychology | 3 cr. |

Summer Semester I (6 cr.)

| | | | |
|---|---|-------------------------------|-------|
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|---------------------------|-------|
| PSL | 313 | Psychology of Adolescence | 3 cr. |
| PSL | 315 | Sensation and Perception | 3 cr. |
| PSL | 317 | Cognitive Psychology | 3 cr. |
| PSL | 213 | Psychology of Learning | 3 cr. |
| PSL | 324 | Educational Psychology | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|--|-------|
| PSL | 321 | Experimental Psychology | 3 cr. |
| PSL | 319 | Abnormal Psychology | 3 cr. |
| EDU | 422 | Test, Measurement and Evaluation | 3 cr. |
| EDU | 350 | Methods of Teaching: Elementary | 3 cr. |
| EDU | 330 | Curriculum Development and Evaluation: Elementary OR/ EDU 331, EDU 332, EDU 333 | 3 cr. |
| EDU | — | EDU 331, EDU 332, EDU 333 | 3 cr. |

Summer Semester II (9 cr.)

| | | | |
|---|---|-------------------------------|-------|
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|---|-------|
| PSL | 411 | Stress: Causes, Consequences and Management | 3 cr. |
| PSL | 385 | Practicum I: Educational | 3 cr. |
| PSL | 415 | Intelligence Testing | 3 cr. |
| PHL | 311 | Ethics and the Modern World (GER) | 3 cr. |
| PSL | 481 | Undergraduate Seminar in Psychology | 3 cr. |

Spring Semester III (16 cr.)

| | | | |
|-----|-----|--------------------------------|-------|
| PSL | 417 | Personality Assessment | 3 cr. |
| PSL | 491 | Special Topics in Psychology | 3 cr. |
| PSL | 345 | Counseling Psychology | 3 cr. |
| EDU | 355 | Education and the Lebanese Law | 3 cr. |
| — | — | Elective | 4 cr. |

**Bachelor of Arts in Psychology - Industrial Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (15 cr.)

| | | | |
|-----|-----|--------------------------|-------|
| ENL | 213 | Sophomore Rhetoric (GER) | 3 cr. |
| MAT | 202 | Mathematics for Arts. | 3 cr. |
| CSC | 201 | Computers and their Use | 3 cr. |
| SOL | 201 | Intro. to Sociology | 3 cr. |
| PSL | 201 | Intro. to Psychology | 3 cr. |

Spring Semester I (15 cr.)

| | | | |
|-----|-----|-----------------------------------|-------|
| ENL | 230 | English in the Workplace | 3 cr. |
| STA | 201 | Stat. for Soc. Scs. Using SPSS | 3 cr. |
| PSL | 211 | Psychology of the Young Child | 3 cr. |
| PSL | 217 | Psychology of Personality | 3 cr. |
| PSL | 413 | History and Systems of Psychology | 3 cr. |

Summer Semester I (6 cr.)

| | | | |
|---|---|-------------------------------|-------|
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester II (15 cr.)

| | | | |
|-----|-----|----------------------------|-------|
| PSL | 317 | Cognitive Psychology | 3 cr. |
| PSL | 319 | Abnormal Psychology | 3 cr. |
| PSL | 322 | Industrial Psychology | 3 cr. |
| PSL | 362 | Psychology Work and Law | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |

Spring Semester II (15 cr.)

| | | | |
|-----|-----|---|-------|
| PSL | 321 | Experimental Psychology | 3 cr. |
| PSL | 323 | Deviance | 3 cr. |
| PSL | 332 | Personnel and Human Factors in the Work Community | 3 cr. |
| BAD | 317 | Organizational Behaviour | 3 cr. |
| — | — | GER | |

Summer Semester II (9 cr.)

| | | | |
|-----|-----|-------------------------------|-------|
| PSL | 386 | Practicum I: Industrial | 3 cr. |
| — | — | General Education Requirement | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Fall Semester III (15 cr.)

| | | | |
|-----|-----|---|-------|
| PSL | 411 | Stress: Causes, Consequences and Management | 3 cr. |
| PSL | 215 | Social Psychology | 3 cr. |
| PSL | 415 | Intelligence Testing | 3 cr. |
| PSL | 481 | Undergraduate Seminar in Psychology | 3 cr. |
| — | — | General Education Requirement | 3 cr. |

Spring Semester III (16 cr.)

| | | | |
|-----|-----|------------------------------|-------|
| PSL | 417 | Personality Assessment | 3 cr. |
| PSL | 491 | Special Topics in Psychology | 3 cr. |
| BAD | 427 | Human Resource Management | 3 cr. |
| PSL | 424 | Community Psychology | 3 cr. |
| — | — | Free Elective | 4 cr. |

Undergraduate Courses: Arabic Language and Literature

ARB 101 Arabic Essay Reading and Writing I (3.0); 3 cr. Concentrates on the essay, its development and its various types. For Freshman students.

ARB 102 Arabic Essay Reading and Writing II (3.0); 3 cr. Continuation of ARB 101. *Prerequisite:* ARB 101. For Freshman students.

ARB 111 Standard Arabic (3.0); 3 cr. Designed to help non-Arabic speaking students study Standard Arabic. For Freshman students.

ARB 201 Introduction to Arabic Syntax (3.0); 3 cr. Addresses the rise of the schools of Arabic syntax; morphological, and syntactic rules are studied in selected texts.

ARB 210 Literary Texts (3.0); 3 cr. A study of literary texts from different ages, with emphasis on the cultural components of the Arabic text and its artistic and aesthetic elements.

ARB 211 Appreciation of Arabic Literature (3.0); 3 cr. Addresses essential characteristics of literature as well as literature themes, schools, and genres. *Prerequisite:* Sophomore Standing.

ARB 212 Advanced Arabic Grammar (3.0); 3 cr. Designed to improve students' command of Arabic grammatical structures and their application in discourse. *Prerequisite:* Sophomore Standing.

ARB 213 Literary Genres (2.0); 2 cr. Offers a study of the aesthetic characteristics of poetry, epic, theater, essay, elocution, and narration.

ARB 214 Arabic Rhetoric and Prosody (3.0); 3 cr. Focuses on the rise of Arabic rhetoric and its development: rhetoric, semantics, metaphor, prosody, and rhyme. Stylistics and writing crafts in all their forms are highlighted. *Prerequisite:* ARB 201.

ARB 215 Literary Schools (2.0); 2 cr. A study of the classic, romantic, realist, symbolic, existentialist, naturalist, and surrealist schools through selected texts. *Prerequisite:* ARB 211

ARB 216 Research Methods (3.0); 3 cr. A study of scientific research methodology and its implementation in contemporary literary studies.

ARB 221 History of Civilizations and Religions (3.0); 3 cr. A comprehensive view of the history of civilizations, the role of religions in the development of thought and action, and its

relation to arts in general, and literature in particular.

ARB 224 Philosophy and Literature (3.0); 3 cr. A study of philosophical thought and its impact on literature.

ARB 231 Technical Arabic (3.0); 3 cr. Designed to train students in using proper Arabic linguistic tools pertaining to various technical, scientific, and professional settings. *Prerequisite:* Sophomore Standing.

ARB 301 Introduction to Comparative Literature (3.0); 3 cr. A pragmatic introduction to comparative literature and its various schools and critical approaches through selected works.

ARB 311 Arabic Grammar and Dictionaries (3.0); 3 cr. This is an in-depth study of Arabic morphology and syntax, in conjunction with glossary building.

ARB 312 Arabic Philology (3.0); 3 cr. Consists of a study of the development of Arabic philology and its characteristics. Phonetics, etymology, derivations, post classical arabization and borrowed words, dialectology, and colloquial vs classical modern Arabic. Arabic writing and calligraphy are highlighted.

ARB 313 Linguistics (3.0); 3 cr. A comprehensive approach to concepts of syntax, phraseology, styles, morphology, phonetics and phonology.

ARB 314 Linguistic Phenomenon in Lebanon (3.0); 3 cr. Explores the contribution of the modern Lebanese Arabic language. Trends in linguistic thought, semantics, morphology, and syntax are studied.

ARB 317 Modern Arabic Literature in Lebanon (3.0); 3 cr. Cultural effects and literary evolution are studied through selected texts.

ARB 318 Lebanese Literature Overseas (4.0); 4 cr. Emigration and its effects on Lebanese literature in content and form are critically addressed. Selections pertaining to writers in the Writer's League and Andalusian Union are studied in depth.

ARB 321 Ancient Western Literature (2.0); 2 cr. Studies the characteristics of ancient Western literature. The effects of Greek and Latin writings on world thought are highlighted.

ARB 323 Western Renaissance Literature (3.0); 3 cr. French, English, Italian, Russian, Spanish, and German literary selections pertaining to the European Renaissance are studied.

ARB 331 Pre-Islamic and Islamic Literature (3.0); 3 cr. This course addresses studies on the Pre-Islamic period of Arabic literature and its characteristics through selected texts as well as the transformation of Arabic literature under the influence of Islam during the period of Rashidian successors and the Ummayyads.

ARB 332 The Holy Qur'an and Literature (2.0); 2 cr. This course offers a study of the Qur'anic language and its effect on Arabic literature.

ARB 333 Poetry in the Abbasid Era (3.0); 3 cr. A study of the evolution of poetry in the Abbasid era through selected texts. The renovation trend and its reflection on literature are also addressed. The Sho'ubian movement, Sufism, and their effect on philosophical thought and translations are highlighted.

ARB 334 Prose in the Abbasid Era (3.0); 3 cr. This course analyses the development of prose in the Abbasid era through selected texts. The renovation trend and its reflection on literature are also addressed.

ARB 335 Andalusian Literature (3.0); 3 cr. This course consists of a study of the evolution of Andalusian Arabic literature, its tradition, evolution and its large range of subjects in poetry and prose. The relation between East and West through the Andalusian artistic flora is also highlighted through selected texts.

ARB 336 Literature of Modern Arabic Renaissance (4.0); 4 cr. This course analyses the effects of Western thought on the Eastern Renaissance and its reflection on Arabic literature. Also, the conflict between tradition and evolution is studied through selected texts.

ARB 415 The Arabic Modernization Movement (3.0); 3 cr. Studies on the development of Arabic poetry in literature and criticism through selected texts.

ARB 416 Pioneers of Arabic Literature (3.0); 3 cr. This course consists of a study of groundbreaking 20th century Arabic literature.

ARB 421 Lebanese Literature in English (3.0); 3 cr. Selected Lebanese writings in English are addressed in this course.

ARB 422 Lebanese Literature in French (3.0); 3 cr. Selected Lebanese writings in French are studied in this course.

ARB 423 The Evolution of the Critical Movement in Lebanon (3.0); 3 cr. A study of the Lebanese contribution to Arabic criticism, trends of criticism in Lebanon in relation to Arabic criticism in the modern age, and the role of journalism in literary criticism.

ARB 424 Experimental Lebanese Literature (3.0); 3 cr. The works of prominent Lebanese writers are studied in this course.

ARB 425 Colloquial Literature (3.0); 3 cr. This course focuses on the form and content of the spoken language through selections in fiction and poetry.

Undergraduate Courses: Human Thought

HUT 305 Human Thought to 1500 (3.0); 3 cr. Traces the development of human thought from the initial stage of thinking to the end of the 16th century.

HUT 306 Human Thought from 1500 to the Present (3.0); 3 cr. Presents analyses of the

issues/challenges which man faced and is facing from the Reformation to the present.

HUT 411 Aesthetics (3.0); 3 cr. Acquaints students with the art of detecting, producing, and appreciating beauty in works of art.
Prerequisite: ENL 213.

Undergraduate Courses: Philosophy

PHL 101 Introduction to Philosophy (3.0); 3 cr. Covers the history of Arab philosophical thought through the study of the works of prominent philosophers. For Freshman students.

PHL 211 Logic and the Scientific Method (3.0); 3 cr. Explores the methods of enquiry

practiced by the natural, social, and behavioral sciences.

PHL 311 Ethics and the Modern World (3.0); 3 cr. Offers a general analysis of fundamental schools and problems in ethics. Texts directly related to the major religions are treated.
Prerequisite: ENL 213.

Undergraduate Courses: Psychology

PSL 101 Principles of Psychology (3.0); 3 cr.

Introduces students to the basic concepts of psychology. Topics include learning, memory, motivation, and habits. For Freshman students.

PSL 201 Introduction to Psychology (3.0); 3 cr.

Offers a critical survey of general topics, principles, and findings of modern psychology.

PSL 211 Psychology of the Young Child (3.0); 3 cr.

Covers the study of the individual from conception through the school years. Emphasis is placed on the child between 3 and 5 years old.

PSL 213 Psychology of Learning (3.0); 3 cr.

Introduces various principles and theories of learning and memory. *Prerequisite:* PSL 201.

PSL 215 Social Psychology (3.0); 3 cr.

Examines theories, research, and implications that relate to social phenomena, such as attitudes, conformity and obedience, aggression, prosocial behavior, socialization, social perception, and group behavior. *Prerequisite:* PSL 201.

PSL 217 Psychology of Personality (3.0); 3 cr.

Examines personality theories, methods and applications to social and clinical concerns. Classic theories of personality are discussed including psychoanalytic, behavioral, trait, humanistic, cognitive and social roles are explored and evaluated. *Prerequisite:* PSL 201.

PSL 230 Theories of Psychotherapy (3.0); 3 cr.

Places an emphasis on understanding the theories and techniques of psychotherapy. Topics considered: individual, family, and group therapy. *Prerequisite:* PSL 201

PSL 310 Psychology of the Family (3.0); 3 cr.

Explores relations between the individual and the family within a community. Focus is placed on diverse family patterns due to social class, race, ethnicity, and gender within a historical and sociopolitical context. By examining epidemiological, cross cultural, and clinical data, a student is introduced to intervention techniques to reduce malfunction and/or abusive situations. *Prerequisite:* PSL 201.

PSL 313 Psychology of Adolescence (3.0); 3 cr.

Introduces theories and research on social, cognitive, sexual and identity development in adolescence in order to promote a healthier adult. Implications within the community are focused on. *Prerequisite:* PSL 201.

PSL 315 Sensation and Perception (3.0); 3 cr.

Examines basic data and theories concerning the sensory system. The focus is on understanding sensory and perceptual processes as they relate to higher cognitive functions. *Prerequisite:* PSL 201.

PSL 317 Cognitive Psychology (3.0); 3 cr.

Addresses the theoretical and experimental foundations for current understanding of how humans acquire and use knowledge. Piaget, Bruner, and Uygotsky theories of cognitive growth are studied. Topics discussed include the development of language, reasoning, problem solving, creativity, and intelligence. *Prerequisite:* PSL 201.

PSL 319 Abnormal Psychology (3.0); 3 cr.

Introduces abnormal behavior and disorders. Emphasis is on theories, etiology, classifications and treatment of abnormalities. *Prerequisites:* PSL 201, PSL 217, PSL 317.

PSL 320 Psychopathology (3.0); 3 cr.

Focuses on psychological and/or organic determinants of behavior disorders. *Prerequisite:* PSL 319.

PSL 321 Experimental Psychology (3.0); 3 cr.

Introduces the research process in psychology. Topics include methodology, data collection, descriptive statistics, analysis, and report writing. *Prerequisites:* STA 201, PSL 213 or PSL 317.

PSL 322 Industrial Psychology (3.0); 3 cr.

Applies a socio-psychological approach to an individual in a work setting. Topics discussed include management in an organization to promote productivity, change, role definition, and leadership qualities. *Prerequisites:* PSL 201, SOL 201.

PSL 323 Deviance (3.0); 3 cr.

Focuses on deviant behavior as a social process. Antecedents, determinants, social relations processes and consequences of deviant acts are emphasized. Topics include juvenile delinquency, homosexuality, homicide, alcoholism, abuse, drugs, suicide, and mental illness. *Prerequisites:* PSL 201; SOL 201.

PSL 324 Educational Psychology (3.0); 3 cr.

Introduces basic principles of psychology applied to the field of education. Topics include learning and instruction, motivation, classroom

management, and testing and evaluation.
Prerequisite: PSL 201.

PSL 332 Personnel and Human Factors in the Work Community (3.0); 3 cr. Addresses the human capabilities, needs, and limitations within a system. Concentration on job analysis, satisfaction, testing, training, group dynamics, leadership and social influence, motivation, equipment design. Consumer behavior and its effect on productivity and work quality within the community are examined. *Prerequisite:* PSL 322.

PSL 345 Counseling Psychology (3.0); 3 cr. How to prevent psychological crisis is the main purpose of this course. Different practices of different schools of psychology are explored, e.g., behaviorism, psychoanalysis, phenomenology, rational emotive therapy, and other contemporary theories. *Prerequisites:* PSL 217.

PSL 362 Psychology of Work and Law (3.0); 3 cr. This course provides an introduction to the application of psychological methodology and research on practical and applied problems. Areas concerned include marketing, advertising, management, and law. Psychological human factors serve as background to this course. *Prerequisite:* PSL 201

PSL 382 Practicum I: Clinical (1.3); 3 cr. Provides a student with supervised work experience within his/her concentration. Specific duties during the internship will be determined by the department and the institution supervisor. *Prerequisite:* junior/senior standing.

PSL 385 Practicum I: Educational (1.3); 3 cr. Provides a student with supervised work experience within his/her concentration. Specific duties during the internship will be determined by the department and the institution supervisor. *Prerequisite:* junior/senior standing.

PSL 386 Practicum I: Industrial (1.3); 3 cr. Provides a student with supervised work experience within his/her concentration. Specific duties during the internship will be determined by the department and the institution supervisor. *Prerequisite:* junior/senior standing.

PSL 411 Stress Causes, Consequences and Management (3.0); 3 cr. Gives students an understanding of the meaning of stress, its definition and, explanation, enabling them to recognize factors that may influence the individual or the situation. Possible outcomes -

at the behavioral, cognitive and physical level - are studied to promote adaptive means of coping and stress management. *Prerequisite:* PSL 201.

PSL 413 History and Systems of Psychology (3.0); 3 cr. Surveys the major schools of psychology; introducing the major psychologists and approaches within the field to give students an understanding of how psychology development into a science. *Prerequisite:* PSL 201.

PSL 415 Intelligence Testing (3.0); 3 cr. Allows the student to gain knowledge of the skills needed in administering, scoring and interpreting intelligence tests. Test focus will be on WAIS for adults, WAIS for children, and the Stanford Binet. *Prerequisites:* STA 201, PSL 211, PSL 317.

PSL 417 Personality Assessment (3.0); 3 cr. Allows the students to gain knowledge of the skills needed to use the various instruments us in assessing personality. Emphasis is on research and methodological steps in evaluating an individual's personality. *Prerequisites:* STA 201, PSL 217, PSL 319, PSL 415.

PSL 424 Community Psychology (3.0); 3 cr. concentrates on the interaction between individual and environment. Emphasis is placed on various models of intervention as they relate to both individual and community needs. Topics include poverty, prejudice, diversity, change, personal space, crowding, territoriality, and social stress. *Prerequisites:* PSL 215, PSL 322.

PSL 481 Undergraduate Seminar in Psychology (3.0); 3 cr. focuses on selected topics in psychology, varying from year to year depending on student, community and curriculum needs and on availability of professionals in relation to selected topics. *Prerequisites:* PSL 213, PSL 321, senior standing.

PSL 484 Practicum II: Clinical (1.3); 3 cr. provides students with supervised work experience within their concentration. Specific duties during the internship will be determined by the department and the institution supervisor. *Prerequisite:* Junior or Senior standing.

PSL 491 Special Topics in Psychology (3.0); 3 cr. This course is designed to be given to a student either independently or in a group setting. Topical reading and research is supervised by a faculty member. *Prerequisites:* STA 201, PSL 321, senior standing.

Undergraduate Courses: Religion

REG 212 Religion and Social Issues (3.0); 3 cr. Designed to cover the three monotheistic religions, i.e. Judaism, Christianity and Islam.

REG 213 Catholicism (3.0); 3 cr. This course offers studies on the Catholic doctrine regarding both faith and morals. *Prerequisite:* ENL 105.

REG 314 Marriage and Family in the Catholic Church (3.0); 3 cr. This course will examine traditional and contemporary views of marriage and family in the light of Catholic theology and doctrine. An inquiry into the sacramental nature of marriage will shed light upon the Catholic view of the Family as “a little Trinity” and “a domestic Church”. The course will therefore attempt to present the Catholic

teaching on marriage and the family based on basic Trinitarian and Ecclesiological Catholic truths. , Investigation into the question of the nature of the human being as man and as woman founded on Patristic exegesis of Sacred Scripture will inform deeply the content of the course. A particular emphasis will be given to the ancient and contemporary Syriac-Maronite contributions to the Catholic view of marriage and the family on both the theological and practical levels.

REG 412 History of Religious Thought in the M.E. (3.0); 3 cr. This course offers studies on the major theological interpretations of the three monotheistic religions as presented by their major thinkers. *Prerequisite:* REG 212.

Undergraduate Courses: Sociology

SOL 201 Introduction to Sociology (3.0); 3 cr. Designed to introduce students to the basic principles that govern social relationships and scientific points of view.

SOL 301 Introduction to Anthropology (3.0); 3 cr. Introduces fundamental concepts of anthropology. Discusses the nature of man, culture, and society.

SOL 312 Social Problems (3.0); 3 cr. Covers social problems in contemporary society with special reference to Middle Eastern society. *Prerequisite:* SOL 201.

SOL 313 Family Violence and Child Abuse (3.0); 3 cr. Integrates current knowledge about family violence from the areas of psychology, sociology, social work, and law enforcement. *Prerequisite:* SOL 201.

Graduate Courses: Arabic Language and Literature

ARB 601 Bibliography and Methods of Research (3.0); 3 cr. Materials, tools, and methods of research are studied in this course.

ARB 611 Analytical Study of Abbasid Prose (3.0); 3 cr. Designed to offer a study of Arabic prose in its first stages, from the Islamic Age to the end of the Abbasid Period, focusing on the stages of transformation and modernization.

ARB 612 Analytical Study of Modern Prose (3.0); 3 cr. Starting from the end of World War I, this course focuses on the prose stations of transformation and modernization.

ARB 613 Parallelism in Ancient Arabic Poetry (3.0); 3 cr. Offers a comparative study of Ancient Arabic literature from the Pre-Islamic Age to the Abbasid Age, focusing on the interaction of the different trends of the most important poets and on the elements of imitation and renovation.

ARB 614 Analytical Study of Modern Poetry (3.0); 3 cr. Covers poetry starting from the end of World War I, focusing on the stages of transformation and modernization.

ARB 621 Study of a Contemporary Literary Work (3.0); 3 cr. A modern literary work written by a 20th century poet, author, or novelists, is studied and analyzed on the basis of modern critical trends.

ARB 622 Trends of Ancient Arabic Criticism (3.0); 3 cr. Application of Arabic critical methods to ancient Arabic literature i.e., prose and poetry.

ARB 623 Parallelism between the Koufi and Basra Schools (3.0); 3 cr. A comparative study of Arabic grammar as presented by the Koufi and Basra schools.

ARB 624 Methods of Teaching Arabic (3.0); 3 cr. Covers the methods of teaching Arabic

grammar, poetry, and prose, (text to the rule and vice versa).

ARB 631 Twentieth Century Prose (3.0); 3 cr. The works and characteristics of one prominent writer of the 20th century are studied in depth.

ARB 632 Renaissance Prose Writing (3.0); 3 cr. Studies and analyzes prose works starting from the early Arabic Renaissance until the end of World War I, focusing on the transformation and renovation stages.

ARB 633 Prominent 20th Century Poet (3.0); 3 cr. Offers a study of the work and characteristics of a prominent 20th century poet as well as his/her relation to renovation and modernization.

ARB 634 Transformation in Renaissance Age Poetry (3.0); 3 cr. Consists of analysis and study of poetry starting from the early Renaissance Age until the end of World War I, focusing on the transformation stages.

ARB 641 Arabic Dictionaries (3.0); 3 cr. Introduction to Arabic lexicography. An in-depth study of one dictionary identifying its special characteristics and its relation to other dictionaries.

ARB 699 Thesis (6.0); 6 cr. Preparation of a thesis with the help of an advisor. The themes and conditions of the thesis are defined in accordance with the requirements set for the Master degree.

Summer Arabic Program (A Four Week Program) **sbs@ndu.edu.lb or summerarabic@ndu.edu.lb**

Program Objective

Make the Arabic language (colloquial, formal, and written) accessible to students in the easiest and most efficient and beneficial way possible.

Program Overview

This four-week program engages students in the culture of contemporary Lebanon, one of the world's most dynamic countries. Participants study at the prestigious Notre Dame University, Lebanon, where the SAP program is set for teaching formal and colloquial Arabic at the preliminary, preparatory, intermediate, and advanced levels. Intensive personalized classroom instruction is supplemented by review sessions, individual tutorials, and daily practice with Lebanese conversation partners chosen mostly from NDU students and staff. Group excursions in Lebanon give students insight into Lebanese culture, society, and lifestyle, and provide students with opportunities to use their language skills with native speakers.

Program Duration

4 weeks, classes begin the first week of July.

N.B. Credits acquired in the SAP Sessions are transferable

Admission Requirements:

Anyone who is interested in the program is kindly requested to submit the following documents:

- Application form (downloaded from website www.ndu.edu.lb under Summer Arabic Program – Faculty of Humanities)
- Official transcript of grades (if applicable)
- Arabic language teacher's recommendation (if applicable)
- Writing sample from the most recent Arabic course (if applicable)
- Non-refundable application fee of US\$30 (check order made payable to Notre Dame University, Lebanon)
- Application Deadline is June 15th

Courses: Summer Arabic Program

The SAP is made up of 4 levels:

Level I (Preliminary Arabic):

ARB 100 Emphasis A - The Formal Language; 3 cr. Designed to initiate non-Arabic-speaking students to the study of standard Arabic, the course aims at enabling foreign students to use and properly pronounce simple Arabic words and to listen, speak, read and write simple sentences. This course also offers a preliminary approach to Arabic grammar. Beginners need not have any previous knowledge of Arabic.

ARB 104 Emphasis B - The Spoken (Colloquial) Language-The Lebanese Dialect; 3 cr. Emphasis is placed on the elementary means of expression, the basics of pronunciation, and the knowledge of articulation. The course initiates speech and dialogue through audiovisual aids, periodic stays with families, programmed visits to industrial plants, shops, markets, cafes, and sight-seeing in groups or individually. Developing elementary vocabulary, learning proper pronunciation, getting the feel of the language. No previous knowledge of Arabic is required.

Level II (Preparatory):

ARB 203 Emphasis A - The Formal Language; 3 cr. This course introduces basic vocabulary and sentence structure in standard Arabic, and focuses on developing basic skills of listening, speaking, reading, and writing simple sentences that are used frequently. Designed to help non-Arabic speaking students study standard Arabic, the course aims at enabling foreign students to use simple Arabic words and basic phrases, to listen, speak, use and compose sentence structures, and to acquire the basics of Arabic grammar. *Prerequisite:* ARB 100 or equivalent.

ARB 202 Emphasis B - The Spoken (Colloquial) Language-The Lebanese Dialect; 3cr. In this course the emphasis is placed on the basic means of expression and the basics of pronunciation and articulation. It introduces the students to speech and dialogue and to the description of facts and recounting of events through audiovisual aids, periodic stays with families, programmed visits to industrial plants, shops, markets, cafes, and sight-seeing in groups or individually, etc. Developing a basic vocabulary,

learning proper pronunciation, getting the feel of the language. *Prerequisite:* ARB 104 or equivalent.

Level III (Intermediate):

ARB 205 Emphasis A - The Formal Language; 3 cr. This course is designed to improve student's writing and reading skills through the following approaches: in-depth applied study of grammar and parsing (قواعد النحو) والاعراب; familiarity with figures speech and of style; development of advanced skills in pronunciation. The course aims at improving the student's linguistic competence in preparation for further Arabic studies. *Prerequisite:* ARB 203 or equivalent.

ARB 204 Emphasis B - The Spoken (Colloquial) Language-The Lebanese Dialect; 3 cr. This course develops basic language skills used in day-to-day conversation. Exercises focus on structured practice in vocabulary, listening, and articulating. The content themes include: shopping, answering or making telephone calls, visiting a doctor, looking for a job, giving a present, attending wedding ceremonies, enjoying local cuisine, taking holidays, etc... Provides students with a rich package of selected vocabulary suitable for different occasions, helps students to adapt to social settings appropriate for different occasions. *Prerequisite:* ARB 202 or equivalent.

Level IV (Advanced Arabic):

ARB 225 Emphasis A: The Formal Language 3 cr. This course focuses on further language skills in simple modern written styles through reading and writing together with improving fluency in oral communication. It includes the study of Arabic prose and poetry texts. Oral presentations and written reports are required. The aim of this course is to improve students' ability to read, write, and understand correct, simple and practical modern Arabic. *Prerequisite:* The successful completion of Preparatory and Intermediate Arabic or their equivalents.

ARB 226 Emphasis B: The Spoken (Colloquial) Language-The Lebanese Dialect; 3 cr. In this course the student will practice holding conversations on common daily concerns. The content themes include: shopping, answering or making telephone calls, visiting a

doctor, looking for a job, giving a present, learning adequate behavior at social occasions (etiquette for weddings, birthday parties, regular daily visits, enjoying local cuisine, taking holidays, etc.) The aim of this course is to give

students the opportunity to develop their communication skills in the spoken language in order to achieve spontaneity in speech and a smooth social integration.

FACULTY OF NATURAL AND APPLIED SCIENCES (FNAS)

Dr. Youssef Kamal El-Hage, *Dean*

DEPARTMENT OF COMPUTER SCIENCE

Dr. Hikmat Farhat, *Chairperson*

DEPARTMENT OF MATHEMATICS AND STATISTICS

Dr. Elias Saleeby, *Chairperson*

Actuarial Science and Insurance Program

Mrs. Claudia Freiji-Bou Nassif, *Academic Advisor*

DEPARTMENT OF SCIENCES

Dr. Antoine Farhat, *Chairperson*

Freshman Science Program

Dr. Doris Jaalouk, *Academic Advisor*

FACULTY DIRECTORY

Office of the Dean

FN&AS Building, 3rd floor, Room S 303
Tel: 09–218950/51/52 (Extension 2109)
e-mail: fnas@ndu.edu.lb

Department of Mathematics & Statistics

FN&AS Building, 3rd floor, Room S 305
Tel: 09–218950/51/52 (Extension 2111)
e-mail: mathematics@ndu.edu.lb

Department of Computer Science

FN&AS Building, 3rd floor, Room S 312
Tel: 09–218950/51/52 (Extension 2115)
e-mail: cs@ndu.edu.lb

Department of Sciences

FN&AS Building, 3rd floor, Room S 306
Tel: 09–218950/51/52 (Extension 2113)
e-mail: sciences@ndu.edu.lb

Actuarial Science & Insurance Program

FN&AS Building, 2nd floor, Room S 214
Tel: 09–218950/51/52 (Extension 2093)
e-mail: cnassif@ndu.edu.lb

Freshman Science Program

FN&AS Building, 2nd floor, Room S 224
Tel: 09–218950/51/52 (Extension 2084)
e-mail: djaalouk@ndu.edu.lb

FACULTY OF NATURAL AND APPLIED SCIENCES

LIST OF FULL-TIME FACULTY MEMBERS

Professor

¹*Eid, George M.*, Ph.D., 1988, *Mathematics*, Polytechnic University, New York, USA

Professor Emeritus

¹*Tarabay, Ajaj*, Ph.D., 1978, *Mathematics*, University of Utah, USA

Associate Professors

¹*El-Hage, Youssef Kamal*, Ph.D., 1990, *Physics*, Technische Universität München, Germany; M.A., 1985, *Philosophy*, Lebanese University, Lebanon

Keirouz Malhab, Ph.D., 1991, *Mathematics*, Purdue University, USA

Khair, Marie, Doctorate, 1996, *Computer Science*, Aristotle University of Thessaloniki, Greece

Khalaf-Keirouz, Leila, Ph.D., 1995, *Environmental Geology*, Westfälische Wilhelms-Universität, Germany

Saliba, Holem, Ph.D., 1997, *Mathematics*, Moscow State University, Russia

Assistant Professors

Dib, Robert, Doctorate, 1998, *Biochemistry*, Université de Nantes, France

Doumit Jacqueline, Doctorate, 1996, *Biomedical Engineering*, Université de Saint-Etienne, France

El-Khalidi, Khaldoun, Doctorate, 1996, *Computer Science*, Université de Franche-Comté, France

Farhat, Antoine, Ph.D., 1999, *Nutrition*, McGill University, Canada

Farhat, Hikmat, Ph.D., 1998, *Chemical Physics*, McGill University, Canada

Ghalayini, Bassem, Ph.D., 1995, *Applied Mathematics*, University of California-Los Angeles, USA

Hage, Tanos G., Ph.D., 1995, *Plant Biochemistry and Molecular Biology*, Pennsylvania State University, USA

Hajjar, Roger, Ph.D., 1997, *Physics and Astronomy*, Université de Montréal, Canada

Haroun, Michelyne, Doctorate, 2001, *Chemistry*, Université de Paris V, France

Jaalouk, Doris, Ph.D., 1997, *Cell Biology*, Université de Sherbrooke, Canada

Jajou, Amer F., Ph.D., 1987, *Operations Research*, Univerzita Karlova, Czechoslovakia

Kabrita-Bou Serhal, Colette, Ph.D., 1998, *Circadian Biology*, Northeastern University, Boston, USA

Maalouf, Hoda, Ph.D., 1998, *Communication Engineering*, Imperial College, University of London, England

Maalouf, Ramez, Ph.D., 1994, *Mathematics*, Imperial College, University of London, England

Missakian, Mario, Ph.D., 2003, *Information Systems*, California Coast University, USA

Noun-Karam, Ghada, Doctorate, 1998, *Immunology*, Université de Paris XI-Orsay, France

Rached Ziad, Ph.D., 2002, *Mathematics*, Queen's University, Canada

Sabra, Bassem, Ph.D., 2000, *Physics*, Ohio University, USA

Saleeby, Elias, Ph.D., 1994, *Chemical Engineering*; Ph.D. 1998, *Mathematics*, University of Arkansas, USA

Tratrat, Christophe, Ph.D., 1999, *Chemistry*, Université de Paris V, France

Senior Lecturers

¹ On tenure appointment

Baroud, Fawzi, M.S., 1985, *Systems Management*, Florida Institute of Technology, USA
Hawi, Nazir, M.S., 1991, *Business Management*, Lebanese American University, Lebanon
Saadeh, Ban, M.S., 1978, *Mathematics*, American University of Beirut, Lebanon

Lecturers

Freiji-Bou Nassif, Claudia, M.S., 1991, *Applied Statistics*, Ohio State University, USA; ;
M.S., 1998, *Financial Economics*, University of London
Ghossoub El Aswad, Zeina, M.S., 1997, *Nutrition*, American University of Beirut,
Lebanon
Hajjar-Muça, Theresa, M.P.H., 1994, *Biostatistics*, American University of Beirut,
Lebanon

Instructor

Sawma, Victor, M.S., 2003, *Computer Science*, University of Ottawa, Canada

List of Academic Assistants

El Ghossein-Maalouf, Nada, M.S., 1996, *Microbiology*, American University of Beirut,
Lebanon
El-Hage, El-Amm, Rita, M.P.H., 1988, *Public Health*, American University of Beirut,
Lebanon
Zoghbi, Catherine, DEA, 2003, *Physics*, Lebanese University, Lebanon

List of Lab and Keyboarding Assistants

Laboratory Assistant

Saliba Tabet, Elizabeth, B.S., 1999, *Biology*, Lebanese University, Lebanon

Keyboarding Assistant

Hajj, Amal

List of Staff Members

Abboud, Danielle, *Executive Secretarial Program*, 1997, American Universal College,
Lebanon, *Dean's Administrative Assistant, Faculty of Natural and Applied Sciences*
Chalhoub-Abboud, Yolla, Business Marketing, 2007-2008 DCE, *Secretary, Department of*
Sciences
Eid-Sawaya, Rita, *Certificate in Secretarial Studies*, 1994, American Language Center,
Lebanon, *Secretary, Department of Computer Science*
Geara-Nakad, Nelly, *Extension courses in Business and Computer*, 1997, American
Language Center, Lebanon, *Secretary, Department of Mathematics and Statistics*

FACULTY OF NATURAL AND APPLIED SCIENCES

Dean: *Dr. Youssef Kamal El-Hage*

Administrative Assistant: *Ms. Danielle Abboud*

AIMS

The FNAS provides students at the undergraduate and graduate levels with a modern and comprehensive education in all fields of natural and applied sciences. This education develops both their theoretical knowledge and technical competence within the comprehensive objective of helping them build a rich cultural identity, sound citizenship, irreproachable morality and firm faith, in conformity with the University mission. Our full-time faculty members are predominantly Ph.D. holders who are engaged in research, teaching, curriculum development and academic administration. Curricula are constantly adjusted to meet acknowledged academic standards and to go along with new advances in didactics and research. The FNAS subscribes to a sizable number of scholarly journals to keep up with new scientific, technological, pedagogical and cultural developments. The science laboratories and the computer center are endowed with modern equipment that is regularly upgraded.

Departments

The FNAS consists of the following departments:

- Department of Computer Science.
- Department of Mathematics and Statistics.
- Department of Sciences.

The Undergraduate Program

Each undergraduate program offered at the FNAS is composed of three components:

- General Education Requirements (GER)
- Core and Major Requirements.
- Free Elective Requirements.

Undergraduate Degrees

The **Department of Computer Science** offers undergraduate programs leading to the degrees of:

- BS in Business Computing (91 credits).
- BS in Computer Science (104 credits).
- BS in Computer Science (concentration: ¹CIS) (102 credits).
- BS in Computer Science (concentration: ²CGA) (108 credits).
- BS in Geographical Information Systems (90 credits).

The **Department of Mathematics and Statistics** offers undergraduate programs leading to the degrees of:

- BS in Actuarial Science and Insurance (112 credits).
- BS in Applied Statistics (90 credits).
- BS in Mathematics (concentration: Pure Mathematics) (103 credits).
- BS in Mathematics (concentration: Mathematics Education) (103 credits).
- BS in Mathematics (concentration: Computational Mathematics) (103 credits).

¹ Computer Information Systems

² Computer Graphics & Animation.

The **Department of Sciences** offers undergraduate programs leading to the degrees of:

- BS in Biology (102 credits).
- BS in Biology (concentration: Biotechnology) (102 credits).
- BS in Biology (concentration: Environmental Biology) (102 credits).
- BS in Chemistry (98 credits).
- BS in Chemistry (concentration: Industrial Chemistry) (98 credits).
- BS in Chemistry (concentration: Environmental Chemistry) (98 credits).
- BS in Chemistry (concentration: Pharmaceutical Chemistry) (98 credits).
- BS in Environmental Science (104 credits).
- BS in Medical Laboratory Technology (103 credits).
- BS in Nutrition and Dietetics (94 credits)
- BS in Physics (95 credits).

The Department of Sciences also offers a **Freshman Science** program. This program leads to a certificate that is equivalent to the official Lebanese Baccalaureate Part II (Scientific Strands).

Graduate Programs And Degrees

The FN&AS offers graduate programs in computer science and mathematics that lead to the degrees of

- Master of Science (MS) in Computer Science.
- MS in Computer Information Systems.
- MS in Mathematics (track: Pure Mathematics).
- MS in Mathematics (track: Applied Mathematics).

This graduate program has two options: a “*course-work*” option and a “*thesis*” option.

In Short: All FNAS Programs Of Study

The following table encapsulates, in alphabetical order, all programs of study offered by the FNAS along with the corresponding total number of credits required:

| Programs of study | Degrees & Certificates | Credits |
|----------------------------------|------------------------|------------|
| Actuarial Science and Insurance | BS | 112 |
| Applied Statistics | BS | 90 |
| Biology (all concentrations) | BS | 102 |
| Business Computing | BS | 91 |
| Chemistry (all concentrations) | BS | 98 |
| Computer Science | BS | 104 |
| | MS | 30 |
| Computer Science (CIS) | BS | 102 |
| | MS | 30 |
| Computer Science (CGA) | BS | 108 |
| Environmental Science | BS | 104 |
| Freshman Science | Certificate | Min. of 30 |
| Geographic Information Systems | BS | 90 |
| Mathematics (all concentrations) | BS | 103 |
| Mathematics (all tracks) | MS | 33 |
| Medical Laboratory Technology | BS | 103 |
| Nutrition and Dietetics | BS | 94 |
| Physics | BS | 95 |

DEPARTMENT OF COMPUTER SCIENCE

Chairperson: *Dr. Hikmat Farhat*

Secretary: *Mrs. Rita Eid-Sawaya*

Associate Professors

Khair, Marie, Doctorate, 1996, Aristotle University of Thessaloniki, Greece
Databases, Computer Security, Medical Informatics

Assistant Professors

El-Khalidi, Khaldoun, Doctorate, 1996, Université de Franche-Comté, Besançon, France
Image Processing, OOP.

Farhat, Hikmat, Ph.D., 1998, Mc Gill University, Canada
Computer Networks, Information Security.

Maalouf, Hoda, Ph.D., 1998, Imperial College, University of London, England
Digital Communications, Computer Networks, Computer Architecture.

Missakian, Mario, Ph.D., 2003, California Coast University, USA
Database Management Systems, Software Engineering, Intelligent & Decision Support Systems.

Senior Lecturer

Hawi, Nazir, M.S., 1991, Lebanese American University, Lebanon
Business Management.

Instructor

Sawma, Victor, M.S. 2003, University of Ottawa, Canada
Computer Science.

Programs of Study

The department of computer science offers both undergraduate and graduate programs leading to the degrees of:

- BS in Business Computing (91 Credits).
- BS in Computer Science (104 Credits).
- BS in Computer Science – (CIS) (102 Credits).
- BS in Computer Science – (CGA) (108 Credits).
- BS in Geographic Information Systems (90 Credits).
- MS in Computer Science (30 Credits).
- MS in Computer Science – (CIS) (30 Credits).

Our Undergraduate Program

Our undergraduate program is designed to prepare students for graduate studies in computer science, computer information systems (CIS), computer graphics & animation (CGA), business computing, geographic information systems, or for a professional career in computer-based environments.

The Degree of Bachelor of Science in Computer Science

Students enrolled in the Computer Science program will acquire enough technical and theoretical background to become inventors of technology rather than skilled user of technologies invented by others. The breadth of the program allows our graduates to design and implement non-trivial software, be leaders in complicated software projects, and come up with innovative ways to use computers systems.

Admission Requirements

For admission requirements to the degree of BS in Computer Science, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in computer science, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 104 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (104 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 25 cr. |
| CSC 212, CSC 213, CSC 222, CSC 313, CSC 371, MAT 211, MAT 213, MAT 215, MAT 224. | |
| Major Requirements | 46 cr. |
| CSC 218, CSC 311, CSC 312, CSC 316, CSC 323, CSC 325, CSC 385, CSC 414, CSC 423, CSC 425, CSC 426, CSC 431, CSC 475, CSC 490, MAT 325. | |
| Choose one course from the following list: CSC 318, CSC 387, CSC 412, CSC 417, CSC 422, CSC 432, CSC 463, CSC 485, MAT 339. | 3 cr. |
| Free Electives | 6 cr. |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Bachelor of Science in Computer Science
Suggested Program (104 Credits)**

Fall Semester I (12 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| CSC | 212 | Program Design & Data Abstraction I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|--------------|--------------------------------------|-------|
| CSC | 213 | Program Design & Data Abstraction II | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| ENL | 230 | English in the Work Place (GER) | 3 cr. |
| REG | 212 / 213 | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----|---|-------|
| MAT | 211 | Discrete Mathematics | 3 cr. |
| CSC | 222 | Computer Organization and Assembly Language | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 313 | Data Structures Using C++ | 3 cr. |
| CSC | 312 | Computer Architecture | 3 cr. |
| CSC | 218 | Principles of Communication Systems | 3 cr. |
| CSC | 385 | Internet Computing | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|--------------|-----------------------------------|-------|
| CSC | 323 | Objected Oriented Programming | 3 cr. |
| CSC | 325 | Analysis of Algorithms | 3 cr. |
| CSC | 316 | Computers Security and their data | 3 cr. |
| ARB | 211 / 231 | GER | 3 cr. |
| CSC | 371 | Workshop in Advanced Programming | 1 cr. |
| CSC | 311 | Theory of Computation | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-----|----------------------|-------|
| CSC | 423 | Software Engineering | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| CSC | 414 | Applied Operating Systems | 3 cr. |
| CSC | 425 | Data Communications & Computer Networks | 3 cr. |
| CSC | 426 | Principles of Database Systems | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (16 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| CSC | 431 | Compiler Design | 3 cr. |
| CSC | 490 | Senior Study | 3 cr. |
| CSC | 475 | Network programming Lab | 1 cr. |
| CSC | — | Technical Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

The Degree of Bachelor of Science in Computer Science *Concentration: Computer Information Systems (CIS)*

The aim of our program in Computer Information Systems is for our graduates to have the right combination of knowledge and practical expertise to manage the information technology infrastructure of any organization. The CIS program replaces theoretical courses in the CS program by more practical courses.

Admission Requirements

For admission requirements to the degree of BS in Computer Science with a concentration in Computer Information Systems, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Computer Science (CIS), a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 102 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (102 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 and REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 25 cr. |
| CSC 212, CSC 213, CSC 222, CSC 313, CSC 371, MAT 211, MAT 213, MAT 215, MAT 224. | |
| Major Requirements | 44 cr. |
| CSC 218, CSC 226, CSC 305, CSC 312, CSC 316, CSC 323, CSC 376, CSC 385, CSC 414, CSC 423, CSC 425, CSC 446, CSC 475, CSC 490, STA 210. | |
| Choose one course from the following list: CSC 318, CSC 387, CSC 412, CSC 417, CSC 422, CSC 432, CSC 463, CSC 485, MAT 339. | 3 cr. |
| Free Electives | 6 cr. |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Computer Science Concentration: Computer Information Systems
Suggested Program (102 Credits)

Fall Semester I (12 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| CSC | 212 | Program Design & Data Abstraction I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| CSC | 213 | Program Design & Data Abstraction II | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-------------|---|-------|
| CSC | 222 | Computer Organization & Assembly Language | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| REG | 212/ 213 | (GER) | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CSC | 313 | Data Structures Using C++ | 3 cr. |
| CSC | 218 | Principles of Communications Systems | 3 cr. |
| CSC | 226 | Database Programming for Business | 3 cr. |
| CSC | 312 | Computer Architecture | 3 cr. |
| STA | 210 | Statistics for Business and Economics | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CSC | 305 | System Analysis and Design | 3 cr. |
| CSC | 385 | Internet Computing | 3 cr. |
| CSC | 371 | Workshop in Advanced Programming | 1 cr. |
| CSC | 323 | Object Oriented Programming | 3 cr. |
| CSC | — | Technical Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-------------|-----|-------|
| ARB | 211/ 231 | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| CSC | 316 | Computer Security & their data | 3 cr. |
| CSC | 425 | Data Communications & Computer Networks | 3 cr. |
| CSC | 423 | Software Engineering | 3 cr. |
| CSC | 446 | Applied Database Systems | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| CSC | 414 | Applied Operating Systems | 3 cr. |
| CSC | 490 | Senior Study | 3 cr. |
| CSC | 475 | Network Programming Lab | 1 cr. |
| CSC | 376 | Applied Security Lab | 1 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

The Degree of Bachelor of Science in Business Computing

A business computing graduate will play a key role in determining the requirements for an organization's information systems. After completing this program our students will have a sound understanding of organizational principles and the information that a computing system can provide to aid the enterprise.

Admission Requirements

For admission requirements to the degree of BS in Business Computing with a concentration in Computer Information Systems, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Business Computing, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 91 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (91 credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 and REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ECN 200 ¹ , MRK 201, TTM 201, BAD 201 | |
| Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 28 cr. |
| CSC 200, CSC 216, CSC 217, CSC 226, ACO 201, ECN 211, MAT 205, MAT 214, STA 206, STA 207 | |
| Major Requirements | 30 cr. |
| CSC 204, CSC 301, CSC 305, CSC 306, CSC 417, CSC 435, CSC 446, CSC 490, ACO 202, ECN 212. | |
| Free Electives | 6 cr. |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Bachelor of Science in Business Computing
Suggested Program (91 Credits)**

Fall Semester I (13 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CSC | 200 | Keyboarding | 1 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| CSC | 204 | Programming Logic | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| CSC | 216 | Computer Programming I | 3 cr. |
| CSC | 226 | Database Programming for Business | 3 cr. |
| MAT | 205 | Math for Business and economics II | 3 cr. |
| STA | 206 | Applied Statistics for Business & Economics I | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Semester I (6 Credits)

| | | | |
|-----|-------------|-----|-------|
| ARB | 211/ 231 | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 217 | Computer Programming II | 3 cr. |
| CSC | 301 | Management Information Systems | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| STA | 207 | Applied Statistics for Business & Economics II | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| CSC | 306 | Web Design | 3 cr. |
| CSC | 305 | System Analysis and Design | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| MAT | 214 | Applied Linear Algebra | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-------------|-----------------------------------|-------|
| CSC | 435 | Operating Systems and Networks | 3 cr. |
| CSC | 417 | Advanced Programming Technologies | 3 cr. |
| ACO | 201 | Principles of Accounting I | 3 cr. |
| REG | 212/ 213 | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| CSC | 446 | Applied Database Systems | 3 cr. |
| CSC | 490 | Senior Project | 3 cr. |
| ACO | 202 | Principle of Accounting II | 3 cr. |
| — | — | Free Elective | 3 cr. |

The Degree of Bachelor of Science in Computer Science *Concentration: Computer Graphics and Animation (CGA)*

The B.S. in Computer Science (CGA) is the study of the technical foundations, design and development of Computer Graphics and Animation. This program prepares students for careers as graphics software developers and for graduate study in computer graphics.

Admission Requirements

For admission requirements to the degree of BS in Computer Science (CGA), refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Computer Science (CGA), a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total of 104 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (108 Credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 and REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201 MRK 201, TTM 201, BAD 201, ECN 211, ECN 212 | |
| Basic Science Studies | 6 cr. |
| ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201. | |
| Core Requirements | 30 cr. |
| CSC 202, CSC 212, CSC 213, MAT 211, MAT 213, MAT 215, MAT 224, FAP 211, ARP 213, ARP 223. | |
| Major Requirements | 45 cr. |
| CSC 231, CSC 277, CSC 278, CSC 279, CSC 313, CSC 343, CSC 375, CSC 412, CSC 422, CSC 423, CSC 430, CSC 433, CSC 435, CSC 443, CSC 490. | |
| Free Electives | 6 cr. |

**Bachelor of Science in Computer Graphics and Animation
Suggested Program (108 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| FAP | 211 | Drawing I | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| CSC | 212 | Program Design & Data Abstraction I | 3 cr. |
| ARP | 213 | Basic Technical Skills | 3 cr. |
| ENL | 213 | Sophomore English Rethoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| ARP | 223 | Descriptive Geometry | 3 cr. |
| CSC | 213 | Program Design & Data Abstraction II | 3 cr. |
| CSC | 202 | Computers for Visual Arts | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| ENL | 230 | English in the Work Place (GER) | 3 cr. |

Summer Semester I (9 Credits)

| | | | |
|-----|-------------|------------------|-------|
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ARB | 211/ 231 | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| MAT | 224 | Calculus IV | 3 cr. |
| CSC | 277 | Software Packages for Computer Graphics I | 3 cr. |
| CSC | 313 | Data Structures using C++ | 3 cr. |
| CSC | 231 | Multimedia Applications | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 278 | Software Packages for Computer Graphics II | 3 cr. |
| CSC | 422 | Introduction to Image Processing | 3 cr. |
| CSC | 375 | Computer Modeling and Simulation | 3 cr. |
| CSC | 412 | Introduction to Computer Graphics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Semester II (9 Credits)

| | | | |
|-----|-------------|--------------------------------|-------|
| — | — | GER | 3 cr. |
| CSC | 435 | Operating Systems and Networks | 3 cr. |
| REG | 212/ 213 | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| CSC | 343 | Character Animation | |
| CSC | 423 | Software Engineering | 3 cr. |
| CSC | 433 | Applied Artificial Intelligence | 3 cr. |
| CSC | 430 | Computer Graphics and Animation | 3 cr. |
| CSC | 279 | Software Packages for Computer Graphics III | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|-----------------------|-------|
| CSC | 443 | Computer Games Design | 3 cr. |
| CSC | 490 | Senior Study | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Computer Science

CSC 200 Keyboarding (0.2); 1 cr. This course introduces the basic skills in operating an electronic keyboard and prepares students to proper typing procedures.

CSC 201 Computers and Their Use (3.0); 3 cr. This course introduces the difference and interface between hardware and software. It prepares the students, to use computers as a tool.

CSC 202 Computers for Visual Arts (3.0); 3 cr. This course introduces the basic concepts of computers and prepares visual arts students to the use of the state-of-the-art software packages for their projects.

CSC 204 Programming Logic (3.0); 3 cr. This is a language independent course that focuses on programming logic. Students learn to develop essential tools for problem solving such as hierarchy charts, pseudocode, and flowcharts. It places special emphasis on concepts such as visual, event-driven, and object-oriented programming. The course serves as a strong and thorough preparation for a sequence of up to date computer programming courses.

CSC 209 Introduction to Computers (3.0); 3 cr. An introduction to the history of computers and their use. Topics include hardware components, system software, interacting with the computer, data storage and retrieval, introduction to data communications and computer networks, the Internet, the use of computers in a variety of personal and professional context including word processing, spreadsheet analysis, database management, electronic presentation, and an introduction to computer programming using Pascal.

CSC 211 Fundamentals of Computing Using PASCAL (4.0); 4 cr. The programming language PASCAL is used to provide the concepts of problem analysis and program design. Programming topics include control structures, I/O, arrays, functions and procedures.

CSC 212 Program Design and Data Abstraction I (3.0); 3 cr. This course is an introduction to computer programming using C++. Topics include problem solving using computers; structural programming; control structures; arrays; functions; pointers; recursion; data abstraction; classes; introduction to object-oriented programming paradigm.

CSC 213 Program Design and Data Abstraction II (3.0); 3 cr. This course is a continuation of CSC 212. Emphasis is placed on the object-oriented features of C++. Topics include classes; operator overloading; inheritance; virtual functions; polymorphism; stream I/O; templates; file processing. *Prerequisite:* CSC 212.

CSC 214 Fundamentals of Computing For Engineers (3.0); 3 cr. The programming language FORTRAN is used to provide the concepts of problem analysis and program design. Programming topics include control structures, I/O, arrays, functions and procedures.

CSC 215 File Processing and Business Programming Using COBOL (3.0); 3 cr. Introduces concepts and techniques for the organization and manipulation of files through the study of the business oriented programming language COBOL. *Prerequisite:* CSC 201.

CSC 216 Computer Programming I (3.0); 3 cr. This course is an introduction to computer programming using Visual Basic. Topics include problem solving using computers, object-oriented, event-driven programming (OOED), form and control properties, variables, assignments statements, arithmetic, control structures, arrays, functions, subs, and modules. *Prerequisite:* CSC 201.

CSC 217 Computer Programming II (3.0); 3 cr. This course is a continuation of CSC 216. Topics include security and files in Visual Basic (VB), using VB to work with databases, using VB to create graphics, and creating objects in VB. *Prerequisite:* CSC 216.

CSC 218 Principles of Communication Systems (3.0); 3 cr. Spectral analysis, random variables and processes, introduction to queuing theory, analogue communication, digital communication, analogue to digital conversion, digital-modulation techniques, representation of noise, demodulation techniques, introduction to information theory. *Prerequisite:* CSC 212.

CSC 219 Digital Computer Fundamentals (3.0); 3 cr. Fundamentals of logic design, the design of switching circuits using small and medium scale integrated devices. Flip flops, counters, decoders, multiplexes, and registers.

CSC 220 Programming in Java I (3.0); 3 cr. Object-Oriented programming using Java.

Topics include: Objects, classes, Methods, Interface Access, Composition, Inheritance, Polymorphism, Interfaces & Inner Classes. Introduction to predefined Classes: Array List, Vector, String & String Buffer. Handling Errors with Exception, I/O system, Templates/Generics. *Prerequisite:* CSC 212

CSC 221 Introduction to Database Programming for Business (2.0); 2 cr. Analysis, design and implementation of computerized business projects using the FoxPro language. *Prerequisite:* CSC 201.

CSC 222 Computer Organization and Assembly Language (3.0); 3 cr. Machine level architecture, functional units, memory, debugging, input/output structures, storage systems, instruction sets, machine cycle, assemblers, macroassemblers and microprocessors.

CSC 226 Database Programming for Business (3.0); 3cr. This course covers the concept of database and database modeling using ER and EER. The procedure of transforming the conceptual model to logical model (relational) is introduced, the SQL language, the relational algebra and the database design. *Prerequisite:* CSC 201.

CSC 231 Multimedia Applications (3.0); 3 cr. An Introduction to the multimedia world and a preparation to some of the well known software packages. *Prerequisite:* CSC 212 or CSC 217.

CSC 270 Computer Aided Engineering Design (0.3); 1 cr. Introduction to computer aided drawing. Applications of existing CAD software to engineering problems.

CSC 271 Workshop in Desktop Publishing (0.3); 1 cr. Laboratory sessions to gain practical experience with typesetting, procedures in a multilingual environment which includes Arabic. *Prerequisite:* CSC 201.

CSC 272 Workshop in Computer Aided Engineering Design (1.4); 3cr. Aims at applying CAD concepts in developing engineering projects. *Prerequisites:* CSC 201 or CEN 170.

CSC 273 Workshop in Computer Aided Architectural Design (1.4); 3 cr. Aims at applying CAD concepts in developing architectural projects. *Prerequisite:* CSC 201 or RCT 102.

CSC 274 Software Packages for Architect I (2.0); 2 cr. Aims at using 3D Studio VIZ for creating complex 3D Models, Rendering and animation.

CSC 275 Software Packages for Architect II (2.0); 2 cr. The main purpose of this course is to communicate to students the ability of working on Photoshop as a final Rendering Software which follows AutoCad and 3Dmax. Also, illustrator Software will be taught for creating professional looking graphics such as logos, working with creative type effects and photographs from line drawings.

CSC 277 Software Packages for Computer Graphics I (0.3); 3 cr. Introduction to 3-D studio program to students in computer graphics.

CSC 278 Software Packages for Computer Graphics II (0.3); 3 cr. This course covers the tools available in Alias/Wavefront's Maya software for the creation of 3D digital animation. *Prerequisite:* CSC 231.

CSC 279 Software Packages for Computer Graphics III (0.3); 3 cr. This course is mostly training on 3rd party software or plugins for making applications in the market (Autodesk 3D studio max, Autodesk Maya...).

CSC 300 Advanced Keyboarding(0.2); 1 cr. Continuation of CSC 200. *Prerequisite:* CSC 200.

CSC 301 Management Information Systems (3.0); 3cr. This course is an introduction to the fundamentals of information technologies and to the strategic opportunities and challenges presented by these technologies. The topics covered in this course are strategic uses of information systems, information technology in business: hardware, software, telecommunications. Data and knowledge management, artificial intelligence and expert systems. *Prerequisite:* CSC 216 or CSC 212.

CSC 305 System Analysis and Design (3.0); 3cr. Business systems as tools for solving information flow problems within the framework of a structured methodology. Case studies provide the students with practical applications. *Prerequisite:* CSC 221 or CSC 226.

CSC 306 Web Design (3.0); 3cr. This course teaches the design of Web sites through an advanced software package. The course takes the students stage-by-stage through the design of specific sites, ranging from personal sites to

creating and managing a corporate intranet. Emphasis on advanced topics such as scripting, databases, and the design of site interaction. *Prerequisite:* CSC 217 or CSC 213.

CSC 311 Theory of Computation (3.0); 3 cr. Strings and languages, regular sets, finite automata, Kleene's theorem, languages and grammars, Chomsky classification, Turing machines, complexity. *Prerequisites:* CSC 313 and MAT 211.

CSC 312 Computer Architecture (3.0); 3 cr. Von Neumann architecture, machine instructions and formats, addressing techniques, microprogramming, fast arithmetic, advanced memory and I/O practices. *Prerequisite:* CSC 222 or EEN 220.

CSC 313 Data structures using C++ (3.0); 3cr. The course will introduce students to the use of Abstract Data type and Data Structures. Topics include: Linked Lists and Recursion, Stacks, queues and their applications, Trees, Balanced trees (AVL, Red-Black) and their implementations, Maps and Hashing, Priority Queues, Heaps, Huffman coding, Graphs vocabulary and implementation, Backtracking. *Prerequisite:* CSC 213.

CSC 314 Programming Languages (3.0); 3 cr. A comparative study of programming languages: syntax, semanticist and implementation. Students will also have to learn and gain working familiarity with the ANSI Standard C programming language. *Prerequisite:* CSC 212.

CSC 315 Computer Information Systems (3.0); 3 cr. Business systems as tools for solving information flow problems within the framework of a structured methodology. Case studies provide the students with practical applications. *Prerequisite:* CSC 221 or CSC 226.

CSC 316 Computers Security and Their Data (3.0); 3 cr. This course covers the main concepts of computer security specially, the ones concerned with the latest technology. Encryption (symmetric & asymmetric), and the most important protocols using encryption are introduced. Also, program security, viruses, operating system security, network security and firewalls are explained. *Prerequisite:* CSC 217 or CSC 213.

CSC 318 Geographic Information Systems (3.0); 3 cr. Principles techniques and applications of geographic information systems.

CSC 320 Programming in Java II (3.0); 3 cr. This course is the continuity of Java I. Topics include: Creating Windows & Applets, 2D and 3D painting, Run-Time Type Identification, Multiple Threads, Introduction to Distributed Computing: JSP, JDBC, RMI. *Prerequisite:* CSC 220.

CSC 321 Advanced Software Packages (3.0); 3 cr. An in-depth practical experience with new generation software packages in the areas of office automation and management. *Prerequisite:* CSC 221 or CSC 226.

CSC 323 Object-Oriented Programming Using C++ (3.0); 3 cr. Abstract data types, classes, objects basic properties, inheritance, polymorphism and dynamic binding, multiple inheritance, object-oriented software engineering, modeling and prototyping. *Prerequisite:* CSC 213 or CSC 217.

CSC 325 Analysis of Algorithms (3.0); 3cr. An introduction to the analysis of the efficiency and accuracy of algorithms. Dynamic Programming. Greedy Algorithms. Graph Algorithms. Selected topics. *Prerequisite:* CSC 313.

CSC 343 Character Animation (0.3); 3 cr. This course introduces the professional tools required for building and animating 3D characters. *Prerequisite:* CSC 277 or CSC 278.

CSC 330 Commercial Software Development (3.0); 3cr. Topics include software design, development, testing, documentation, and maintenance. Also examines team work, scheduling, prime management, and project management topics. Students develop, test, and market a commercial piece of software in a team setting. *Prerequisite:* CSC 315.

CSC 371 Workshop in Advanced Programming (0.3); 1 cr. Language laboratory with projects requiring the proper choice of data structures, control structures, and tools of software based on solid theoretical computing concepts. Laboratory 2 hours per week, tutorial 1 hour per week.

CSC 372 Mathematical Software Packages (1.0); 1 cr. Introduction to computer programming and simulation using mathematical software packages such as Matlab, Maple, Mathematica.

CSC 375 Computer Modeling and Simulation (3.0); 3 cr. Introduction to basic concepts of simulation modeling: data acquisition, model

construction and validation, experimentation, implementing the results. Discrete systems simulation using Matlab software. *Prerequisite:* CSC 313 or CSC 320.

CSC 376 Applied Security lab (1.2); 1 cr. This course applies the theoretical concepts of encryption by building or using some security packages. It studies and compares different security features of the current commercial anti-virus and anti-intrusion software, operating systems, database management systems, firewalls and risk analysis packages. *Prerequisite:* CSC 316 CSC 316.

CSC 385 Internet Computing (3.0); 3 cr. The topics covered in the course include Introduction to Internet, WWW, XHTML, Javascript, MySQL, Apache, PHP, and XML. *Prerequisite:* CSC 213 or CSC 217 or CSC 220.

CSC 387 Advanced programming using Java (3.0); 3cr. From C++ to Java, interfaces, inner classes, I/O system, Templates/Generics. Creating Windows & Applets, 2D and 3D painting, Multiple Threads, Java Database Connectivity (JDBC), Java Networking; Client/Server Architecture, Servlet, Java Server Page (JSP). *Prerequisite:* CSC 213.

CSC 412 Introduction to Computer Graphics (3.0); 3 cr. Video basics, raster scan graphics, Bresenham algorithm, viewports, geometric forms and models, polygon filling and antialiasing, halftoning, convex boundaries, interior and exterior clipping, hidden lines and hidden surfaces. *Prerequisite:* CSC 313 or CSC 320.

CSC 414 Applied Operating Systems (3.0); 3 cr. Fundamental concepts that are applicable to a variety of operating systems. Detailed case studies of Unix, Linux and Windows NT systems. *Prerequisite:* CSC 312.

CSC 415 Introduction to Operating Systems (3.0); 3 cr. Topics include operating system concepts; system calls; interprocess communication; race condition; mutual exclusion with/without busy waiting; semaphores; monitors; the problem deadlock; process scheduling; memory management, file systems; security; I/O. *Prerequisites:* CSC 312.

CSC 416 Fundamentals of Data Retrieval (3.0); 3cr. Topics include information system types and related file structures, inverted files, text analysis and automatic indexing; database management systems and query languages,

overview on natural language processing. *Prerequisite:* CSC 313.

CSC 417 Advanced Programming Technologies (0.3); 3 cr. This course covers advanced programming topics using Visual Basic.NET. This includes databases, Web applications, XML, Web services, mobile applications. *Prerequisite:* CSC 213 or CSC 217.

CSC 422 Introduction to Image Processing (3.0); 3 cr. Image perception, sampling and quantization techniques, image transforms, image enhancement techniques like noise reduction, blurring, sharpening, edge detection, and contrast enhancing. *Prerequisite:* CSC 213 or CSC 220.

CSC 423 Software Engineering (3.0); 3 cr. Techniques of software development, testing, and management. *Prerequisite:* CSC 323 or CSC 320.

CSC 425 Data Communications and Computer Networks (3.0); 3 cr. Topics include data communications; transmission media; asynchronous/synchronous transmission; error control; data link control protocols; LAN types and protocols; high-speed LANs; MANs; bridges; WANs; packet/circuit switched data networks; internetworking; Internet IP. *Prerequisites:* CSC 218 or CSC 312.

CSC 426 Principles of Database Systems (3.0); 3 cr. The objective of this course is to introduce the fundamental concepts necessary for designing, using and implementing database systems. The course will study data modeling by understanding the concepts data schema, data representation, relations and attributes, normalization, data description language, data definition language and data manipulation languages. The course will also provide an introduction to the next generations systems and basically OODBS. Also the course will cover a number of issues that are important in the design of DBMS including recovery, consistency, security, integrity and query optimization. *Prerequisite:* CSC 313 or CSC 217.

CSC 430 Computer Graphics and Animation (3.0); 3 cr. Topics include: mathematical techniques for curve and surfaces; color systems; fractals hidden lines and hidden shad up; surface mapping and ray tracing; techniques of animation. *Prerequisite:* CSC 412 or its equivalence.

CSC 431 Compiler Design (3.0); 3 cr. Principles and practices in the design of programming language compilers. Topics: lexical analysis, parsing theory (LL, LR, and LALR parsing), symbol tables, type checking, common representations for arrays, runtime conventions for procedure calls, storage allocation for variables, and generation of code. Students construct two compilers as the programming projects: the first is a simple predictive parser and the second is a rather large project using Lex and Yacc. *Prerequisites:* CSC 311.

CSC 432 Introduction to Artificial Intelligence (3.0); 3 cr. Basic concepts of artificial intelligence, predicate calculus, proof by refutation (Oring algorithm), natural language processing, game trees, heuristic, introduces two programming languages LISP and PROLOG. *Prerequisite:* CSC 313.

CSC 433 Applied Artificial Intelligence (3.0); 3 cr. The aim of this course is to introduce Game-related Artificial Intelligence fundamental concepts: Intelligent agents, Heuristic Search, Planning, Uncertainty and Decisions Making (Fuzzy Logic), Learning (Genetic Algorithms). *Prerequisites:* CSC 320 and MAT 340.

CSC 435 Operating Systems and Networks (3.0); 3 cr. This course provides an introduction to the concepts underlying operating systems and computer networks. Detailed studies of Unix, Linux, Windows NT, Ethernet and TCP/IP protocols. Senior Standing.

CSC 443 Computer Games Design (3.0); 3 cr. In this course, the student learns about the main components that are required to design a computer game. The work includes project design activities where the students will be expected to make use of existing programming tools. *Prerequisites:* CSC 343.

CSC 446 Applied Database Systems (3.0); 3 cr. This course is intended to be a practical study of the fundamentals of current database technologies and database management systems.

Wide range of topics will be covered including uses of databases, database architecture, design, real world implementations, security and integrity issues, performance and concurrency. *Prerequisite:* CSC 221 or CSC 226.

CSC 463 Advanced Software Development (3.0); 3 cr. This course addresses advanced topics in programming using the relatively new programming language C#.NET, a part of the .NET IDE envelope. The language is intriguing and is intended to programming, using an object-oriented approach, Internet applications with emphasis on Windows interfaced packaged software. It is an integration language that agrees well with almost any other application across the internet. *Prerequisite:* CSC 213.

CSC 475 Network Programming Lab (1.2); 1 cr. Applied networking and distributed computing in Java. Networking with sockets. TCP/IP, Multicast, HTTP, RMI, Finger, and ping clients and servers. Multiprotocol chat systems & whiteboards. *Prerequisite:* CSC 425.

CSC 476 Database Programming lab (1.2); 1 cr. This course applies the theoretical concepts of database design using a specific application on a commercial database management system. The general concepts of this DBMS including transaction handling, optimization, recovery, and security are checked and compared with other commercial DBMS. *Prerequisites:* CSC 426 or CSC 446.

CSC 480 Internship 1 cr. Assigned work at an industrial establishment. The grade will be based on employer's evaluation, written report and oral discussions. *Prerequisite:* Senior Standing.

CSC 485 Seminar (3.0); 3 cr. This course is designed to provide students an opportunity to study some topics in computer science that have not been included in the curriculum. *Prerequisite:* Senior Standing.

CSC 490 Senior Study 3 cr. Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Science in Geographic Information Systems

Geographic Information Science is a growing field in computer technology. Our program in GIS offers a hands-on learning environment that prepares our students to join many of the emerging areas of applications of GIS such as infrastructure management, public health and safety as well as other business uses.

Admission Requirements

For admission requirements to the degree of BS in Geographic Information Systems, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Geographic Information Systems, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 90 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (90 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills ENL 213, ENL 230 | 6 cr. |
| Computer Skills CSC 201 | 3 cr. |
| Cultural Studies ARB 211 or ARB 231 and REG 212 or REG 213 One course from the following:PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306 | 9 cr. |
| Social Science Studies One course from the following:HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ECN 200 ¹ , ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | 3 cr. |
| Basic Science Studies Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201 | 6 cr. |
| Core Requirements CSC 204, CSC 216, CSC 217, CSC 226, CSC 273,CSC 417, CSC 435, MAT 215, STA 210 | 27 cr. |
| Major Requirements CEN 150, CEN 151, CSC 446, GIS 211, GIS 311, GIS 321, GIS 331, GIS 352, GIS 441, GIS 452, GIS 490 | 30 cr. |
| Free Elective | 6 cr. |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Geographic Information Science
Suggested Program (90 Credits)

Fall Semester I (15 Credits)

| | | | |
|------------------|-----|----------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| CSC | 204 | Programming Logic | 3 cr. |
| GIS ¹ | 211 | Principles of GIS | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| CSC | 216 | Computer Programming I | 3 cr. |
| GIS | 311 | Desktop GIS | 3 cr. |
| CSC | 226 | Introduction to Database Programming for Business | 3 cr. |
| STA | 210 | Statistics for Business and Economics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Session (6 Credit)

| | | | |
|-----|------|-----|-------|
| ARB | 211/ | GER | 3 cr. |
| | 231 | | |
| REG | 212/ | GER | 3 cr. |
| | 213 | | |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| GIS | 321 | Spatial Analysis & Modeling | 3 cr. |
| CSC | 217 | Computer Programming II | 3 cr. |
| CSC | 273 | Workshop in Computer Aided Architectural Design | 3 cr. |
| | | Free Elective | 3 cr. |
| CEN | 150 | Surveying | 2 cr. |

Spring Semester II (13 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| GIS | 331 | Implementations of GIS | 3 cr. |
| GIS | 441 | Cartography, Geodesy and GPS | 3 cr. |
| CEN | 151 | Field Surveying | 1 cr. |
| CSC | 417 | Advanced Programming Technologies | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| GIS | 352 | Theories of Remote Sensing | 3 cr. |
| CSC | 435 | Operating Systems & Networks | 3 cr. |
| CSC | 446 | Applied Database Systems | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (12 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| GIS | 452 | Advanced Remote Sensing | 3 cr. |
| GIS | 490 | GIS Senior Project | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

¹ GIS 211 or CSC 318 could be taken.

Undergraduate Courses: Geographic Information Systems

GIS 211 Principles of GIS (3.0); 3 cr. An introduction to Geographical Information System, data structure and information, topology, attributes and database organization, map basics and cartographic representations, and Remote Sensing & GPS.

GIS 311 Desktop GIS (3.0); 3 cr. Topics include spatial data entry, data format and structure, maps and raster image registration and rectification, data base design and management, spatial data analysis (vector representation), and handling all types of geographical data with Arc Info Workstation. *Prerequisite:* GIS 211 or CSC 318

GIS 321 Spatial analysis and Modeling (3.0); 3 cr. Introduction to spatial analysis, vector spatial analysis, network analysis, raster spatial data development, raster analysis, surface modeling, 3-D analysis. *Prerequisite:* GIS 311.

GIS 331 Implementations of GIS (3.0); 3 cr. This course focuses on applications in vector data analysis and manipulation, network analysis, spatial analysis, surface modeling, 3-D modeling, and field trips. *Prerequisite:* GIS 321.

GIS 341 Cartography and Automated Mapping (3.0); 3 cr. Elements of thematic cartography, cartographic theory, and cartographic projections. Properties of photogrammetric and remotely sensed images; photography, elements of map, photograph, and image interpretation.

GIS 351 Photogrammetry and Remote Sensing (3.0); 3 cr. the nature of remote sensing. Optical radiation models. Sensor models. Data models. Spectral and spatial transforms. Correction and calibration. Image registration and fusion. Introduction to photogrammetry. Basic elements and techniques of image interpretation. Various aerial camera systems and platforms. Films and filter

combination. Geometry and Aerial photography. Scale and area and height measurement. Stereoscopy. Flight planing and ground control of aerial photography. Orthophotography.

GIS 352 Theories of Remote Sensing (3.0); 3 cr. Concepts of Remote Sensing, physics of Remote Sensing, introduction to air photo interpretation, photogrammetry, Remote Sensing sensors and platforms, digital image processing, and overview of applications of remote Sensing.

GIS 411 Geodetic Science and Satellite Positioning (3.0); 3 cr. Description of the geodetic mode of the Earth. Relationship between terrestrial observations and grid coordinates. Use of satellites for navigation and positioning. History and review of satellite positioning systems. Measurement techniques using gps. Future trends in satellite positioning technology. *Prerequisite:* MAT 213.

GIS 441 Cartography, Geodesy and GPS (3.0); 3 cr. This course introduces the nature of cartography, basic geodesy, map projections, scaling, referencing and coordinate systems, cartographic perception and design. It also describes Global Positioning System (GPS), map data collection and design.

GIS 452 Advanced Remote Sensing (3.0); 3 cr. This course focuses on hands on applications of Remote Sensing data collection, data preparation and processing, image distortion, radiometric and geometric corrections, image enhancement and classification, image mosaicking, space triangulation, and digital representation of relief stereoscopy. *Prerequisite:* GIS 352.

GIS 490 Senior Project (3.0); 3 cr. Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

Our Graduate Program

Our graduate program in computer science is designed to prepare students to do research in advanced topics in computer science and to gain further practical skills and knowledge in the computer profession.

The Degree of Master of Science in Computer Science

Admission Requirements

In addition to the university graduate admission requirements, candidates are expected to have a sufficient background in computer science and mathematics. Those who do not meet these requirements may be given provisional admission pending satisfactory completion of some undergraduate courses. The credits earned for these courses will not be counted towards the 30 credits required for the degree of Master of Science (MS) in computer science.

Graduation Requirements

To satisfy the requirements for the degree of MS in Computer Science, the student must complete a total of 30 credits with an overall average of at least 3.0/4.0. A student can complete the required 30 credits by following one of the two options:

1. **Course-work option:** 15 credits of required courses and 15 credits of elective courses.
2. **Thesis option:** 15 credits of required courses, 9 credits of elective courses and a 6-credit thesis.

The thesis option is more research oriented and therefore more appropriate for students planning to pursue a Ph. D. The course-work option is more hands-on and project oriented and therefore more appropriate for students planning to join the market place.

Degree Requirements (*Course-Work Option*) (30 Credits)

1- Complete the following five required courses **15 cr.**
CSC 611, CSC 616, CSC 622, CSC 626, MAT 661.

2- Complete five elective courses from the following list **15 cr.**
CSC 603, CSC 621, CSC 623, CSC 625, CSC 631, CSC 632, CSC 636, CSC 647, CSC 670.

3-Pass two comprehensive examinations after having completed at least 18 credits with an overall average of 3.0/4.0:

The first exam is composed of topics covered in CSC 616 and CSC 626. The second exam is composed of topics covered in CSC 611, CSC 622 and MAT 661.

**MS in Computer Science (Course-Work Option)
Suggested Program (30 Credits)**

Fall Semester (6 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| CSC | 611 | Advanced Theory of Computation | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Spring Semester (9 credits)

| | | | |
|-----|-----|---------------------------|-------|
| CSC | 616 | Advanced Database Systems | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Fall Semester II (9 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 622 | Advanced Analysis of Algorithms | 3 cr. |
| CSC | 626 | Computer Communication and Networks | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Spring Semester II (6 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| MAT | 661 | Computational Mathematics | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

**Degree Requirements (*Thesis Option*)
(30 Credits)**

1- Complete the following five required courses **15 cr.**

CSC 611, CSC 616, CS 622, CSC 626, MAT 661.

2- Complete three elective courses from the following list **9 cr.**

CSC 603, CSC 621, CSC 623, CSC 625, CSC 631, CSC 632, CSC 636, CSC 647, CSC 670.

3- Complete the MS thesis requirements **6 cr.**

CSC 691 and CSC 692

**Master of Science in Computer Science (Thesis Option)
Suggested Program (30 Credits)**

Fall Semester (6 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| CSC | 611 | Advanced Theory of Computation | 3 cr. |
| CSC | 626 | Commuter Communications & Networks | 3 cr. |

Spring Semester (9 credits)

| | | | |
|-----|-----|-----------------------------|-------|
| MAT | 661 | Computational Mathematics I | 3 cr. |
|-----|-----|-----------------------------|-------|

Spring Semester I (9 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| CSC | 616 | Advaned Database Systems | 3 cr. |
| CSC | 622 | Advanced Analysis of Algorithms | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Fall Semester II (6 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| MAT | 661 | Computational Mathematics I | 3 cr. |
| CSC | 691 | Master Thesis in Computer Science I | 3 cr. |
| CSC | 6xx | Elective | |

Spring Semester II (6 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| CSC | 692 | Master Thesis in Computer Science II | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

The Degree of Master of Science in Computer Science *Concentration: Computer Information Systems*

The purpose of the graduate program CS-CIS is to teach students how to combine general management knowledge with the latest software tools and techniques to create information systems which allow organizations to compete in on the global market place. Graduates will be prepared for careers in a variety of areas such as programming, system development, database administration, network development & support, and consulting.

Admission Requirements

In addition to the university graduate admission requirements, candidates are expected to have a sufficient background in computer science and mathematics. Those who do not meet these requirements may be given provisional admission pending satisfactory completion of a set of undergraduate courses. The credits earned for these courses will not be counted towards the 30 credits required for the degree of Master of Science in CS-CIS.

Graduation Requirements

To satisfy the requirements for the degree of Master of Science in CS-CIS, the student must complete a total of 30 credits with an overall average of at least 3.0/4.0. A student can complete the required 30 credits by following one of the two options:

1. **Thesis option:** 15 credits of required courses, 9 credits of elective courses and a 6-credit thesis.
2. **Course-work option:** 15 credits of required courses, 15 credits of elective courses.

The thesis option is more research oriented and therefore more appropriate for students planning to pursue a Ph. D. The course-work option is more hands-on and project oriented and therefore more appropriate for students planning to join the market place

Degree Requirements of CS-CIS (*Course-Work Option*) (30 Credits)

1- Complete the following five required courses **15 cr.**
CSC 605, CSC 616, CSC 623, CSC 626, STA 614

2- Complete five elective courses from the following list **15 cr.**
CSC 603, CSC 621, CSC 625, CSC 631, CSC 632, CSC 636,
CSC 647, CSC 670, PRM 601, PRM 603, PRM 605, BAD 630, BAD 634.
At least two courses from this pool should be Computer Science (CSC prefix) courses.

3- Pass a comprehensive examination after having completed at least 18 credits with an overall average of 3.0/4.0

The exam will cover topics from CSC 616, CSC 623 and CSC 626.

**MS in Computer Science-CIS (Course-Work Option)
Suggested Program (30 Credits)**

Fall Semester I (9 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 605 | System Analysis and Design | 3 cr. |
| STA | 614 | Advanced Statistical Methods for Business Decision Systems | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Spring Semester I (9 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| CSC | 616 | Advanced Database Systems | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |
| | | Elective | 3 cr. |

Fall Semester II (6 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| CSC | 626 | Computer Communications & Networks | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Spring Semester II (6 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CSC | 623 | Advanced Software Engineering | 3 cr. |
| — | — | Elective | 3 cr. |

**Degree Requirements of CS-CIS (Thesis Option)
(30 Credits)**

1- Complete the following five required courses **15 cr.**
CSC 605, CSC 616, CSC 623, CSC 626, STA 614.

2- Complete three elective courses from the following list **9 cr.**
CSC 603, CSC 621, CSC 625, CSC 631, CSC 632, CSC 636, CSC 647, CSC 670, PRM 601, PRM 603, PRM 605, BAD 630, BAD 634. At least two courses from this pool should be Computer Science (CSC prefix) courses.

3- Complete the MS thesis requirements **6 cr.**
CSC 691 and CSC 692

**Master of Science in Computer Science-CIS (Thesis Option)
Suggested Program (30 Credits)**

Fall Semester I (9 Credits)

| | | | |
|-----|-----|--|-------|
| CSC | 605 | System Analysis and Design | 3 cr. |
| STA | 614 | Advanced Statistical Methods for Business Decision Systems | 3 cr. |
| | | Elective | 3 cr. |

Spring Semester I (9 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 616 | Advanced Database Systems | 3 cr. |
| CSC | 626 | Computer Communication and Networks | 3 cr. |
| CSC | 6xx | Elective | 3 cr. |

Fall Semester II (6 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CSC | 623 | Advanced Software Engineering | 3 cr. |
| CSC | 691 | Master Thesis I | 3 cr. |

Spring Semester II (6 Credits)

| | | | |
|-----|-----|------------------|-------|
| CSC | 692 | Master Thesis II | 3 cr. |
| | | Elective | 3 cr. |

Regulations concerning the “thesis courses” of the Master of Science in Computer Science or in CS-CIS

Master Thesis

Students may register for the thesis (CSC 691 & CSC 692) upon the completion of at least 18 credits with an overall average of at least 3.3/4.0 and after receiving the approval of both the department chairperson and the thesis advisor.

Duration of Work

The work for the thesis is expected to be completed within a period of two semesters. Otherwise, the student shall register for one credit every semester thereafter.

Jury for the Oral Defense

After receiving a written note of completion along with five bound copies of the master thesis from the master thesis advisor, the department chairperson shall appoint the jury for the oral defense and its chairperson, and shall distribute to each member one copy of the master thesis. The jury shall consist of the master thesis advisor and three full-time faculty members one of whom is from outside the department.

Schedule for the Oral Defense

The oral defense for the master thesis shall be scheduled by the jury chairperson one month from the date of the appointment of the jury at the latest.

Evaluation and Grade

Bound master thesis copies are required for the evaluation. The jury shall evaluate the work for the master thesis and assign the appropriate grade by a majority vote. In case of a tie, the committee chairperson shall have the casting vote.

Final Copy of the Master Thesis

The student shall submit seven bounded copies of the approved final copy of the master thesis to the jury chairperson who, in turn, shall distribute them to the Library, Faculty, Department, and to each member of the jury.

Graduate Courses: Computer Science

CSC 603 Objected-Oriented Applications (3.0); 3 cr. Emphasizes the use of Object-Oriented Architectures and Components in order to build business to business and business to client applications. The multi-tier architecture will be studied in depth through Enterprise Java Beans (EJB) specifications. The development environment is Jbuilder 4 of Borland.

CSC 605 System Analysis and Design (3.0); 3 cr. Emphasizes the design aspects of systems development, including logical and physical design, implementation, testing and operation. State-of the art system development process, methods and tools are presented.

CSC 606 Operating Systems and Security (3.0); 3 cr. This is a hands-on system vulnerabilities like stack and heap overflows, return to libc attacks etc... Attack counter measures such as stack guard and address space randomization are discussed. The students are expected to write their own exploits in addition to applying known exploits in a controlled linux/x86 environment. Viruses and worms are covered along with defenses like disinfection, integrity checking and sandboxing.

CSC 611 Advanced Theory of Computation (3.0); 3 cr. Topics include: primitive recursive functions, Church thesis, recursive and recursively enumerable sets, time and space complexity measures, the classes P and NP-completeness, and hierarchy of complexity.

CSC 612 Advanced Computer Graphics (3.0); 3 cr. Topics include: mathematical techniques for curve and surfaces; color systems; fractals hidden lines and hidden shading; surface mapping and ray tracing; techniques of animation.

CSC 613 Computer Vision and its Applications (3.0); 3 cr. Focuses on computer techniques for understanding and interpreting visual data, physics of vision, boundary detection of objects, region growing, analysis of texture and motion, and analysis on objects in scenes.

CSC 614 Modeling and Simulation in OOP (3.0); 3 cr. Encapsulation, use of inheritance (including multiple inheritance), collections and iterators, run-time typing identification, exception handling. Some aspects of distributed and parallel object-oriented systems.

CSC 615 Advanced Computer Architecture (3.0); 3 cr. Early systems, parallelism and parallel processing, vector processors, array processors, associative processors, VLIW architecture, memory and I/O subsystems, networking. Case Study: RISC architecture.

CSC 616 Advanced Database Systems (3.0); 3 cr. Topics include: Data modeling using ER model; relational model; relational algebra; SQL; functional dependencies and normalization; query processing and optimization; distributed database design procedure; distributed query optimization concurrency control; recovery; integrity and security; data warehouse and data mining.

CSC 621 Advanced Compiler Design (3.0); 3 cr. The course will cover some of the core-topics, already studied in CSC 431 (or in some equivalent course at another university), but with more details and rigor. Some of the topics are: lexical analysis, parsing theory (LL, LR, and LALR parsing), symbol tables, type checking, common representations for arrays, runtime conventions for procedure calls, storage allocation for variables, generation of code, and code optimization.

CSC 622 Advanced Analysis of Algorithms (3.0); 3 cr. The course will cover some of the core-topics, already studied in CSC 325 (or in some equivalent course at another university), but with more details and rigor. In addition, we will present a selection of advanced topics, mainly the theory of NP-completeness and algorithms for parallel computers.

CSC 623 Advanced Software Engineering (3.0); 3 cr. Advanced Topics in software engineering are covered including: formal methods, cleanroom software engineering, component-based development, client/server software engineering, web engineering, reengineering, computer-aided software engineering.

CSC 625 Advanced Operating Systems (3.0); 3 cr. Special emphasis on distributed computing, and the services provided by distributed operating systems. Important topics include naming, security, remote procedure call, networks, concurrency, transactions, parallel computing, shared memory, message passing, and scale.

CSC 626 Computer Communications and Networks (3.0); 3 cr. Computer communications and layered network architecture; implementation and configuration of local Area Network (LANs), and Wide Area Network (WANs), TCP/IP, Internetworking and network management.

CSC 631 Multimedia Systems (3.0); 3 cr. This course provides the background needed for the design and development of computer-based systems that combine text, still images, sound, animation, and full motion video. The course will examine design methodologies used in planning these systems, and authoring languages used to create such systems.

CSC 632 Artificial Intelligence (3.0); 3 cr. Principles of problem solving and planning and machine learning systems. Introduction to current State-of-the art expert systems and expert systems tools.

CSC 633 Digital Image Processing (3.0); 3 cr. Image perception, sampling, quantization techniques, transforms, enhancement techniques, like noise reduction, blurring, sharpening, edge detection, and contrast enhancing, image restoration and analysis.

CSC 636 Computer Security (3.0); 3 cr. This is a graduate course on computer security. The emphasis is on formal model and the foundations of computer security. Topics include: access control and protection models. Security, confidentiality and integrity policies are also discussed and representative models like Bell-LaPadula, Biba and Chinese wall are chosen as examples. Information flow, auditing and vulnerability analysis are also covered.

CSC 645 Neural Networks for Computing (3.0); 3 cr. Introduction to neural networks algorithms, adaptive behavior, associative learning. Applications to cognitive information processing and control and signal processing.

CSC 647 Decision Support Systems (3.0); 3cr. Decision Support Systems (DSS) help users in solving problems and in reaching a decision based on available data, knowledge bases, and decision models. This course will expose students to theoretical DSS concepts, and to practical issues. Students will gain hands on experience by creating a real world DSS. Topics include: DSS analysis, modeling, and development; data warehousing, mining and OLAP; knowledge management (acquisition, validation, representation) and inference techniques.

CSC 670 Selected Topics in Computer Science (3.0); 3 cr. Topics of current interest in computer science.

CSC 685 Readings in Computer Science (3.0); 3 cr. Designed primarily for those students wishing to study a particular area in computer science under the supervision of a faculty member.

CSC 690 Master Thesis in Computer Science 6 cr. The research for the master thesis must show the student's proficiency in approved topics in computer science.

CSC 691 Master Thesis in Computer Science I 3 cr. The research for the master thesis must show the student's proficiency in approved topics in computer science.

CSC 692 Master Thesis in Computer Science II 3 cr. Continuation of CSC 691.

DEPARTMENT OF MATHEMATICS AND STATISTICS

Chairperson: *Dr. Elias Saleeby*

Secretary: *Mrs. Nelly Geara Nakad*

Professor Emeritus

¹*Tarabay, Ajaj*, Ph.D., 1978, University of Utah, USA

Several Complex Variables, Group Theory

Associate Professors

Keirouz Malhab, Ph.D., 1991, Purdue University – USA

Differential Topology

Saliba, Holem, Ph.D., 1997, Moscow State University, Russia

Mathematical Logic, Algebra and the Theory of Numbers.

Assistant Professors

Ghalayini, Bassem, Ph.D., 1995, University of California, Los Angeles, USA

Differential Equations

Jajou, Amer F., Ph.D., 1987, Univerzita Karluva, Czechoslovakia

Operations Research, Numerical Analysis

Maalouf, Ramez, Ph.D., 1994, University of London, England

Complex Analysis, Fractal Geometry

Rached Ziad, Ph.D., 2002, Queen's University, Canada

Mathematics, Communications

Saleeby, Elias, Ph.D., 1994, Chemical Engineering; Ph.D., 1998, Mathematics, University of Arkansas, USA

Function Theory and Differential Equations.

Senior Lecturer

Saadé, Ban, M.S., 1978, American University of Beirut, Lebanon,

Algebra

Lecturers

Freiji-Bou Nassif, Claudia, M.S., 1991, Ohio State University, USA; M.S., 1998, University of London,

Applied Statistics, Financial Economics

Hajjar-Muça, Theresa, M.P.H., 1994, American University of Beirut, Lebanon

Biostatistics

Programs of Study

The department offers programs in applied statistics, actuarial science & insurance, and mathematics leading to the degrees of:

- BS in Actuarial Science and Insurance (112 Credits).
- BS in Applied Statistics (91 Credits).
- BS in Mathematics (103 Credits).
- MS in Mathematics (33 Credits)

Our Undergraduate Program

Our undergraduate program is designed to prepare students for graduate studies in Mathematics or for a professional career in education, insurance companies or organizations requiring competences in actuarial science and applied statistics.

The Degree of Bachelor of Science in Actuarial Science and Insurance

Academic Advisor: *Mrs. Claudia Freiji Bou Nassif*

Actuarial Science is a field concerned with the applications of mathematics and statistics to long-term financial problems. These problems are frequently associated with life assurance and pension provision. An actuary has to:

- Assess risks.
- Project mortality rates.
- Take account of economic factors.
- Determine levels of premiums on long-term contracts.
- Forecast short- and long-term benefits and contributions for environments such as social security, pension funds, insurance companies, and banks.

The BS degree in Actuarial Science and Insurance prepares students for careers as:

- Actuaries in the insurance and reinsurance industries.
- Actuary analysts of risk and uncertainty regarding potential financial losses.
- Actuarial calculators of unearned premium reserves.
- Underwriters in insurance companies and government agencies.
- Consultants in financial and investment corporations.

Students enrolled in the BS degree will also be prepared to take a series of examinations in actuarial science leading to ASA designation under the Society of Actuaries (SOA).

Admission Requirements

For admission requirements to the degree of BS in Actuarial Science and Insurance, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Actuarial Science and Insurance, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 112 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (112 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231, REG 212 or REG 213 | |
| One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, MRK 201, TTM 201, BAD 201 | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |

Core Requirements**36 cr.**

ACO 201, ACO 202, ECN 211, ECN 212, MAT 206, MAT 213, MAT 215, MAT 224, MAT 235, CSC 212, STA 210, STA 312

Major Requirements**43 cr.**

ACS 300, ACS 310, ACS 314, ACS 320, ACS 324, ACS 327, ACS 330, ACS 421, ACS 424, ACS 430, ACS 450, ACS 460, MAT 325, STA 315, STA 370

Free Electives**6 cr.**

Choose two courses from the already non-chosen courses in sets **(c)**, **(d)**, and **(e)**.
N.B: Students wishing to sit for the actuarial professional exams must take BAF 311 and BAF 312 as their free electives.

**Bachelor of Science in Actuarial Science and Insurance
Suggested Program (112 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----------|-------------------------------------|-------|
| MAT | 213 | Calculus III | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| STA | 210 | Statistics for Business & Economics | 3 cr. |
| ARB | 211 / 231 | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ACO | 201 | Principles of Accounting I | 3 cr. |
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| CSC | 201 | Computers and Their Use | 3 cr. |

Summer Session I (9 Credits)

| | | | |
|-----|-----------|-------------------------------|-------|
| REG | 212 / 213 | GER | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ACS | 330 | Insurance Law and Regulations | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| ACS | 310 | General Insurance | 3 cr. |
| ACO | 202 | Principles of Accounting II | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |
| MAT | 206 | Financial Mathematics | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| ACS | 314 | Actuarial mathematics I | 3 cr. |
| ACS | 320 | Mathematics of Demography | 3 cr. |
| ACS | 327 | Risk Theory | 3 cr. |
| STA | 315 | Mathematics Statistics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|-----|-----------|---------------------------------------|-------|
| CSC | 212 / 216 | Computer language C++ or Visual Basic | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (16 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| ACS | 324 | Actuarial Mathematics II | 3 cr. |
| STA | 312 | Introductory Time Series Analysis | 3 cr. |
| ACS | 450 | Investment and Asset Management | 3 cr. |
| ACS | 430 | Loss Models | 3 cr. |
| ACS | 300 | Actuarial Problem Solving | 1 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (18 Credits)

| | | | |
|-----|-----|---|-------|
| ACS | 421 | Credibility Theory and Loss Distributions | 3 cr. |
| ACS | 424 | Pension Fund Mathematics | 3 cr. |
| STA | 370 | Stochastic Processes | 3 cr. |
| ACS | 460 | Multi-Life and Multi-Decrement Models | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Actuarial Science & Insurance

ACS 300 Actuarial Problem Solving (1.0); 1 cr. This course is designed specifically to help students prepare to sit for the Society of Actuaries Exam P/1. Problems from previous actuarial exams and other relevant sources are tackled in class focusing on techniques and shortcuts used to enhance problem solving skills under time pressure.

ACS 310 General Insurance (3.0); 3 cr. This is a general non mathematical introduction to the major functions of insurance companies starting from their “raison d’être” and ending with an explanation of the different coverage offered under Personal Insurance; Topics include: Types of Risk and Risk Management Methods; Objectives of Risk Management; Risk Pooling and Risk reduction through Pooling and Insurance Institutions; Cost of Risk Pooling (Insurer Insolvency, Insurer Operations and Reinsurance); Insurance Pricing (Determinants of Premium, Investment Income and Loadings); Experience Rating (Full and Partial Credibility); Estimation of outstanding claim provisions, delays in claim reporting and settlement; Chain Ladder method with and without inflation; Estimation of Incurred but not yet reported Claims (IBNR); Demand of Insurance by Individuals and by Businesses; Types of Personal Insurance(Automobile, Homeowners and life insurance and annuities) explaining for each the exposed to risk population, the pricing and underwriting cycle. *Prerequisite:* STA 210.

ACS 314 Life and Multi-life Contingencies (3.0); 3 cr. Introduces the basis of actuarial Mathematics. Topics include Risk Aversion and the different Utility functions; Survival distribution for future lifetime as well as curtate future lifetime random variable; Force of Mortality and its relation to the survival function; Life tables and their use in calculating probabilities of survival; Expectation of future lifetime (Complete and Curtate); Assumptions regarding Fractional ages; Special Laws of Mortality (Gompertz, Makeham, etc); Ultimate Life tables; Life Insurance payable at the moment of death (continuous) or at the end of year of death (discrete); Term Insurance; Deferred Insurance and Endowment Insurance; Varying Benefit Insurance (Increasing/Decreasing); Relation between expected present value of a benefit paid at the

moment of death and that payable at the end of the year of death. *Prerequisite:* MAT 325.

ACS 320 Mathematics of Demography (3.0); 3 cr. Measures and characteristics; of mortality; life tables; mortality projections; measures of morbidity. Adjusted average; difference equations and mathematical formula methods. *Prerequisite:* MAT 325.

ACS 324 Actuarial Mathematics II (3.0); 3 cr. This course assesses Life Annuities (paid in advance, in arrears or Continuous) for a whole life, term or deferred period. Annuities with Level or Varying payments done annually or mthly; Net Premium Determination through the equation of Equivalence for fully continuous, discrete and monthly payments; Apportionable premiums; Accumulation type Benefits; Net Premium Reserves(fully continuous, Discrete and semi-continuous) Prospective and Retrospective Reserves; Reserves at fractional durations; Differential Equations for fully continuous reserves. *Prerequisite:* ACS 314.

ACS 327 Risk Theory (3.0); 3 cr. Individual Risk model for the short term; Models for independent claim random variable and approximation for the distribution of the sum of multiple claims; Collective Risk Model for a Single Period; Compound Distributions and the evaluations of moments for the aggregate distribution; Collective Risk Model over an Extended Period; Surplus Process and Ruin; Claims Processes (Poisson and Compound Poisson Process); Adjustment Coefficient; Claim amount Distribution in Cases of Fire Insurance, Automobile Physical Damage Insurance, short term disability, Hospital Insurance,...etc; Stop-Loss Reinsurance Premium Determinants; Effect of Reinsurance on the Probability of Ruin. *Prerequisite:* MAT 325.

ACS 330 Insurance Law and Regulations (3.0); 3 cr. Elements of business law as it applies to insurance; government and social policy as it relates to general insurance; automobile insurance and assigned risk plans.

ACS 421 Credibility Theory and Loss Distributions (3.0); 3 cr. Estimation of future claims frequency, claim’s severity, pure premium as well as aggregate losses by associating credibility factor to previous experience; The Credibility factor is computed according to: Limited Fluctuation Credibility,

Partial Credibility: Bühlmann and Bühlmann Straub Credibility. Bayesian approach to Credibility is discussed in general and through Conjugate Prior Distributions such as Poisson-Gamma, Normal-Normal, Binomial-Beta and Exponential-Inverse Gamma mixed distributions. Non-parametric and Semi parametric Methods in computing Credibility factor in the absence of fully defined distributions. *Prerequisite:* STA 315.

ACS 424 Pension Fund Mathematics (3.0); 3 cr. Valuation theory for pension plans; Description of benefit, Benefit calculations; Funding. Accrued Benefit Method, Projected Cost Method, Aggregate method; Introduction to gains and losses. *Prerequisite:* ACS 314; *Corequisite:* ACS 460.

ACS 430 Loss Models (3.0); 3 cr. Introduces the Modeling cycle in solving business problems. Selection of the parametric models; Estimation of the associated parameters using Method of Moments, Maximum Likelihood Estimation, Percentile matching and Bayesian Estimation; Calibration and the evaluation of the suitability of the Model using Kolmogorov-

Smirnov, Anderson- Darling, Chi-Square goodness of fit and Likelihood Ratio tests. *Prerequisite:* STA 315.

ACS 450 Investment and Asset Management (3.0); 3 cr. Financial securities and markets, Efficient portfolios and efficient frontiers, The single index model, Utility analysis, The standard capital asset pricing model, Efficient markets, Interest rate theory, Options and Futures. *Prerequisite:* MAT 325.

ACS 460 Multi-life and Multi-Decrement Models (3.0); 3 cr. The joint life and last-survivor status, insurance and annuity benefits, simple contingent functions, Insurance models including expenses, types of expenses, net premium and reserves. Multiple decrement models; Multiple and Associate single decrement tables, Net single Premium. *Prerequisites:* ACS 324.

ACS 480 Internship 1 cr. Assigned work at an industrial establishment. The grade will be based on employer's evaluation, written report and oral discussions. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Science in Applied Statistics

The degree of BS in Applied Statistics prepares students for careers as statistical analysts and consultants, biostatisticians, pollsters, general statisticians, or teachers in:

- Engineering and operations management companies.
- Hospitals, health centers, medical and applied science laboratories.
- Academic and educational institutions.
- Testing and measurement offices.
- Industrial psychology.
- Government agencies and ministries.

Admission Requirements

For admission requirements to the degree of BS in Applied Statistics, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Applied Statistics, a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total of 91 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the major and core requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (90 credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 | |
| REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, MRK 201, TTM 201, BAD 201 | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 18 cr. |
| MAT 213, MAT 215, MAT 224, STA 210, ECN 211, ECN 212. | |
| Major Requirements | 39 cr. |
| MAT 315, MAT 325, MAT 330, STA 305, STA 312, STA 315, STA 325, STA 354, STA 360, STA 415, STA 450, STA 490, ACS 320. | |
| Free Electives | 6 cr. |
| Choose two courses from the already non-chosen courses in sets (c), (d), and (e). Choosing courses from outside these sets requires the written approval of the FNAS Dean. | |

**Bachelor of Science in Applied Statistics
Suggested Program (90 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ECN | 211 | Principles of Microeconomics | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| STA | 210 | Statistics for Business and Economics | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| ECN | 212 | Principles of Macroeconomics | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-------|-------------------------|-------|
| MAT | 315 | Linear Algebra II | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |
| STA | 305 | Sampling Theory | 3 cr. |
| REG | 212 / | GER | 3 cr. |
| | 213 | | |
| ARB | 211 / | GER | 3 cr. |
| | 231 | | |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| STA | 312 | Introduction to Time Series Analysis | 3 cr. |
| STA | 315 | Mathematical Statistics | 3 cr. |
| ACS | 320 | Mathematics of Demography | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| STA | 325 | Design of Experiments | 3 cr. |
| STA | 330 | Probability Models | 3 cr. |
| STA | 354 | Applied Regression Analysis | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| STA | 360 | Applied Multivariate Statistical Analysis | 3 cr. |
| STA | 415 | Statistical Quality Control | 3 cr. |
| STA | 450 | Topics in Applied Statistics | 3 cr. |
| STA | 490 | Senior Project | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Statistics

STA 201 Statistics for Social Sciences (3.0); 3 cr. Topics include: Frequency distribution; measures of central tendency; measures of dispersion; quartiles and percentiles, laws of probability, sampling distributions, estimation, testing hypothesis and chi-square distribution. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 203 Biostatistics (3.0); 3 cr. Fundamentals principles of statistics as they apply to biological problems, including statistical inference analysis of variance. Correlation regression. A software package will be used. *Prerequisite:* Sophomore Standing.

STA 204 Epidemiology for Nursing (3.0); 3 cr. Important epidemiological principles and methods. Causation and distribution of diseases. *Corequisite:* STA 203.

STA 206 Applied Statistics for Business and Economics I (3.0); 3 cr. Descriptive statistics; measures of central tendency and dispersion; introduction to probability; conditional probability; independence; random variables; discrete probability distributions. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 207 Applied Statistics for Business and Economics II (3.0); 3 cr. Sampling distributions; inferences about a population mean, proportion and variances; experimental design; analysis of variance and covariance; linear regression and correlation. A statistical software package will be used. *Prerequisite:* STA 206.

STA 209 Applied Statistics (3.0); 3 cr. Frequency distribution; measures of central tendency and dispersion; probability laws; random variables; sampling and estimations. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 210 Statistics for Business and Economics (3.0); 3 cr. Descriptive statistics; measures of central tendency and dispersion, probability laws; random variables, sampling distributions; estimation; hypothesis testing simple linear regression; analysis of variance and chi-square. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 303 Statistical Inference (3.0); 3 cr. Logic of statistical inference; sampling

distributions; point and interval estimations hypothesis testing; correlation; regression. *Prerequisite:* STA 210.

STA 305 Sampling Theory (3.0); 3 cr. Topics include: selection of sampling unit; determination of sample size; random and stratified sampling; purposive selection; sub-sampling and sampling chesters; sampling from finite universe. *Prerequisite:* STA 210.

STA 312 Introductory Time Series Analysis (3.0); 3 cr. Introduces the basic concepts of regression analysis starting with two variable model then proceeds to three variable and multi-variable regression models. Thorough discussion of: The assumptions underlying linear regression models; Diagnostic tests, and correction methods for heteroscedasticity, multicollinearity and serial correlations. The second part of the course introduces deterministic and stochastic time series models and discusses: Basic smoothing and extrapolation techniques; Autocorrelation Function (ACF) and Partial Autocorrelation Function (PACF) for the different models; Stationarity, nonstationarity and Invertibility conditions; Model specification, Parameter estimation and forecasting for the different stationary time series models AR (p), MA (q), ARMA (p, q), and the homogenous non-stationary models of order d ARIMA. *Prerequisite:* STA 210.

STA 315 Mathematical Statistics (3.0); 3 cr. Sampling; estimation; hypothesis testing; t-distribution; chi-square distribution; F-distribution; linear regression and correlation. Analysis of variance and covariance; multiple regression. *Prerequisite:* MAT 325.

STA 325 Design of Experiments (3.0); 3 cr. Single-factor experiments, randomized blocks, Latin squares, factorial and fractional experiments, surface fitting design. *Prerequisite:* STA 210.

STA 354 Applied Regression Analysis (3.0); 3 cr. An applied introduction to Linear and Multiple Regression Models; Testing of Hypothesis in Multiple Regression; Multiple, Partial and Multiple Partial Correlation; Confounding and Interaction in Regression; Regression Diagnostics; Dummy Variables in Regression and selection of the Best Regression Equation. The course stresses the knowledge of how to develop a regression model and how to

interpret the output by statistical packages without resorting to rigorous mathematical development. *Prerequisite:* STA 315.

STA 360 Applied Multivariate Statistical Analysis (3 cr.); 3 cr. Multivariate analysis, matrix algebra and random vectors, random sampling, the multivariate normal distribution, inferences about multivariate means and linear models, comparisons of several multivariate means, and multivariate linear regression. *Prerequisite:* STA 315.

STA 370 Stochastic Processes (3 cr.); 3 cr. This course introduces the basic probabilistic methods of stochastic processes. Topics include: Markov Chains; Exponential distribution and Poisson Process; Continuous – time Markov Chains; Renewal Theory and its application; Brownian Motion and Stationary Processes.

STA 415 Statistical Quality Control (3 cr.); 3cr. Methods and philosophy of statistical control; charts; for variables and for attributes, cumulative and exponentially weighted moving average control charts. Other statistical process techniques, process capability analysis. *Prerequisite:* STA 315.

STA 450 Topics in Applied Statistics (3.0); 3 cr. Multivariate distributions; regression analysis; non-parametric statistics; sequential analysis; decision theory; *Prerequisite:* STA 303.

STA 490 Senior Project 3 cr. Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

Graduate Courses: Statistics

STA 500 Applied Statistics for Business and Economics (3.0); 3 cr. The course covers the following main topics: Introduction to Statistics and Probability, discrete and continuous random variables, sampling distribution, testing hypothesis and estimation, analysis of variance, simple and multiple regression, and time-series analysis. The course also applies these concepts and Techniques to actual real world business and economic situations.

STA 614 Advanced Statistical Methods for Business Decisions (3.0); 3 cr. This course develops an analytical approach to risk in management decisions. Topics include decision analysis; correlation and multiple regression; discriminant; judgment; canonical; cluster and factor analysis.

STA 653 Stochastic Processes (3.0); 3 cr. Poisson processes: waiting time distributions, non-homogeneous Poisson processes. Renewal theory: Wald's equation, renewal reward processes. Discrete Markov chains: classification of states, limit theorems. Continuous-time Markov chains: limiting probabilities, birth and death processes. Martingales: stopping times, martingale convergence theorem, Azuma's inequality. Brownian motion: hitting times, backward and forward diffusion equations. *Prerequisite:* MAT 325.

STA 654 Methods of Multivariate Analysis (3.0); 3 cr. Least Square and multiple regression analysis, canonical correlation, principle

component analysis, Hotelling's T^2 procedures, multivariate analysis of variance, discriminant analysis, cluster analysis. *Prerequisite:* STA 315.

STA 663 Time Series Analysis (3.0); 3 cr. Topics include stationary models and autocorrelation function, estimation and elimination of trend and seasonal components; Stationary processes: properties, ARMA processes, estimation of mean and autocorrelation function; forecasting stationary time series; Spectral analysis; Non-stationary and seasonal time series models: ARIMA models, forecasting ARIMA models, seasonal ARIMA models. Applications using real and simulated data. *Prerequisite:* STA 315 or equivalent.

STA 664 Probability and Statistical Inference (3.0); 3 cr. Functions of random variables and sampling distribution: normal distribution, t-distribution, chi-square distribution, F-distribution. Stochastic convergence: convergence in probability, convergence in distribution, the central limit theorem. Point estimation: properties of estimators, finding estimators, Rao-Blackwell theorem, Cramer-Rao inequality. Confidence interval estimation: one population and two populations. Hypothesis testing theory: power function, Neyman-Pearson lemma, likelihood ratio test. Applications: Testing various unknown parameters of one population and several populations. Bayesian methods: prior and posterior distributions, credible intervals. *Prerequisite:* MAT 325.

The Degree of Bachelor of Science in Mathematics

The Department of Mathematics and Statistics offers a BS program in Mathematics with the following concentrations: Pure Mathematics, Computational Mathematics and Mathematics Education.

The degree of BS in Mathematics prepares students for careers in:

- Academic and educational institutions.
- Engineering industry.
- Government laboratories.
- Business and management corporations.
- Research centers.
- Computer firms.

Admission Requirements

For admission requirements to the degree of BS in Mathematics, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Mathematics, a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total of 103 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation. The student can choose one of the three following concentrations:

Concentration: Pure Mathematics Degree Requirements (103 credits)

General Education Requirements 27 cr.

a) Communications Skills 6 cr.

ENL 213, ENL 230

b) Computer Skills 3 cr.

One course from the following: CSC 201, CSC 202, CSC 204.

c) Cultural Studies 9 cr.

ARB 211 or ARB 231 and REG 212 or REG 213

One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201.

d) Social Science Studies 3 cr.

One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201

e) Basic Science Studies 6 cr.

Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements 28 cr.

Twenty two credits: CSC 212, CSC 213, MAT 211, MAT 213, MAT 215, MAT 220, MAT 224, MAT 235. In addition to six credits to be chosen from the department science courses numebred 200 or above with the approval of the advisor.

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Major Requirements **42 cr.**

1. Required courses: 18 credits
MAT 325, MAT 333, MAT 411, MAT 412, MAT 413, MAT 423.
2. Twenty four credits to be chosen from the following set:
MAT 305, MAT 312, MAT 335, MAT 339, MAT 400, MAT 418, MAT 421, MAT 430, MAT 431, STA 315, STA 370, CSC 311, CSC 313, CSC 325.

Free Elective **6 cr.**
Six credits with the approval of the advisor.

**Concentration: Computational Mathematics
Degree Requirements
(103 credits)**

General Education Requirements **27 cr.**

a) Communications Skills 6 cr.

ENL 213, ENL 230

b) Computer Skills 3 cr.

One course from the following: CSC 201, CSC 202, CSC 204.

c) Cultural Studies 9 cr.

ARB 211 or ARB 231 and REG 212 or REG 213

One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201.

d) Social Science Studies 3 cr.

One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201

e) Basic Science Studies 6 cr.

Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements **28 cr.**

Twenty two credits: CSC 212, CSC 213, MAT 211, MAT 213, MAT 215, MAT 220, MAT 224, MAT 235. In addition to six credits to be chosen from the department science courses numbered 200 or above with the approval of the advisor.

Major Requirements **42 cr.**

1. Required courses: 27 credits: MAT 325, MAT 333, MAT 411, MAT 412, MAT 413, MAT 423, CSC 311, CSC 313, CSC 325.
2. Six credits to be chosen from the following set: MAT 305, MAT 312, MAT 335, MAT 339, MAT 400, MAT 418, MAT 421, MAT 430, MAT 431, STA 315
3. Nine credits to be chosen from the following set: CSC 222, CSC 312, CSC 415, CSC 425, CSC 426, CSC 432

Free Elective **6 cr.**
Six credits with the approval of the advisor.

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Concentration: Mathematics Education
Degree Requirements
(103 credits)**

| | |
|--|-------------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills ENL 213, ENL 230 | 6 cr. |
| b) Computer Skills One course from the following: CSC 201, CSC 202, CSC 204. | 3 cr. |
| c) Cultural Studies ARB 211 or ARB 231 and REG 212 or REG 213 One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | 9 cr. |
| d) Social Science Studies One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | 3 cr. |
| e) Basic Science Studies Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | 6 cr. |
| Core Requirements | 28 cr. |
| Twenty two credits: CSC 212, CSC 213, MAT 211, MAT 213, MAT 215, MAT 220, MAT 224, MAT 235. In addition to six credits to be chosen from the department of science courses numbered 200 or above with the approval of the advisor. | |
| Major Requirements | 42 cr. |
| 1. Required courses: 21 credits MAT 325, MAT 333, MAT 337, MAT 411, MAT 412, MAT 413, MAT 423 | |
| 2. Six credits to be chosen from the following set: MAT 305, MAT 312, MAT 335, MAT 339, MAT 400, MAT 418, MAT 421, MAT 430, MAT 431, STA 315. | |
| 3. Required courses in education: 15 credits EDU 313, EDU 343, EDU 352, EDU 432, EDU 462. | |
| Free Elective | 6 cr. |
| Six credits with the approval of the advisor. | |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Bachelor of Science in Mathematics – Concentration Pure Mathematics
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 212 | Program Design and Data Abstraction | 3 cr. |
| MAT | 224 | Calculus VI | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| PHS | 213 | Modern Physics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Session I (7 Credits)

| | | | |
|-----|-------|--|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ARB | 211 / | GER | 3 cr. |
| | 231 | | |
| MAT | 220 | Introduction to Mathematical Software Packages | 1 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-------|--|-------|
| CSC | 213 | Program Design and Data Abstraction II | 3 cr. |
| MAT | 412 | Topology I | 3 cr. |
| MAT | — | Elective | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |
| REG | 212 / | GER | 3 cr. |
| | 213 | | |

Spring Semester II (15 Credits)

| | | | |
|------|-----|-------------------|-------|
| MAT | 333 | Complex Variables | 3 cr. |
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|------|---|----------|-------|
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| — | — | Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|------|-----|---------------------|-------|
| MAT | 411 | Group Theory | 3 cr. |
| MAT | 413 | Advanced Calculus I | 3 cr. |
| MAT/ | — | Elective | 3 cr. |
| STA | | | |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|----------------------|-------|
| MAT | 421 | Rings and Fields | 3 cr. |
| MAT | 423 | Advanced Calculus II | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

**Bachelor of Science in Mathematics - Concentration Computational Mathematics
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 212 | Program Design and Data Abstraction | 3 cr. |
| MAT | 224 | Calculus VI | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| PHS | 213 | Modern Physics | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Session I (7 Credits)

| | | | |
|-----|-------|--|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ARB | 211 / | GER | 3 cr. |
| | 231 | | |
| MAT | 220 | Introduction to Mathematical Software Packages | 1 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-------|--|-------|
| CSC | 213 | Program Design and Data Abstraction II | 3 cr. |
| MAT | 412 | Topology I | 3 cr. |
| CSC | 311 | Theory of Computation | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |
| REG | 212 / | GER | 3 cr. |
| | 213 | | |

Spring Semester II (15 Credits)

| | | | |
|------|-----|------------------------|-------|
| CSC | 313 | Data Structures in C++ | 3 cr. |
| MAT | 333 | Complex Variables | 3 cr. |
| CSC | 325 | Analysis of Algorithms | 3 cr. |
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|------|---|----------|-------|
| MAT/ | — | Elective | 3 cr. |
| CSC | | | |
| — | — | Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---------------------|-------|
| MAT | 411 | Group Theory | 3 cr. |
| MAT | 413 | Advanced Calculus I | 3 cr. |
| CSC | — | Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|----------------------|-------|
| MAT | 421 | Rings and Fields | 3 cr. |
| MAT | 423 | Advanced Calculus II | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

**Bachelor of Science in Mathematics - Concentration Mathematics Education
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| MAT | 211 | Discrete Mathematics | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CSC | 212 | Program Design and Data Abstraction | 3 cr. |
| MAT | 224 | Calculus VI | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| EDU | 313 | Psychology of Education: Learning | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Summer Session I (7 Credits)

| | | | |
|-----|-------|--|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ARB | 211 / | GER | 3 cr. |
| | 231 | | |
| MAT | 220 | Introduction to Mathematical Software Packages | 1 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-------|--|-------|
| CSC | 213 | Program Design and Data Abstraction II | 3 cr. |
| MAT | 412 | Topology I | 3 cr. |
| EDU | 343 | Classroom Management | 3 cr. |
| MAT | 325 | Elements of Probability | 3 cr. |
| REG | 212 / | GER | 3 cr. |
| | 213 | | |

Spring Semester II (15 Credits)

| | | | |
|------|-----|---------------------------------|-------|
| MAT | 337 | Foundations of Geometry | 3 cr. |
| MAT | 333 | Complex Variables | 3 cr. |
| EDU | 352 | Methods of Teaching Mathematics | 3 cr. |
| MAT/ | — | Elective | 3 cr. |
| CSC | — | — | — |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-----|--|-------|
| EDU | 432 | Tests, Measurement and Evaluation in Mathematics | 3 cr. |
| MAT | — | Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| MAT | 411 | Group Theory | 3 cr. |
| MAT | 413 | Advanced Calculus I | 3 cr. |
| EDU | 462 | Mathematics Teaching Practicum I | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|----------------------|-------|
| MAT | 421 | Rings and Fields | 3 cr. |
| MAT | 423 | Advanced Calculus II | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Mathematics

MAT 101 Pre-Calculus (3.0); 3 cr. Integer exponents, scientific notation, measurements, polynomials equations, factoring, rational equations; complex numbers; quadratic equations and inequalities, roots and radicals, rational exponents; radical equations. *Prerequisite:* Placement or Freshman Standing.

MAT 105 Principles of Calculus (3.0); 3 cr. Coordinate systems; lines in the plane, functions and graphs. Limits and continuity. Differentiation. Variation and concavity, maxima and minima, graphing. Exponential and logarithmic functions. Antiderivatives. Definite and indefinite integrals. *Prerequisite:* Placement or Freshman Standing.

MAT 111 Calculus and Analytic Geometry I (3.0); 3 cr. Functions and graphs, Rate of change, graphing, limit and continuity. Derivatives; differentiation rules. Applications of derivatives; maximum, minimum, the mean value theorem, L'Hôpital's rule. *Prerequisite:* Placement or Freshman Standing.

MAT 112 Calculus and Analytic Geometry II (3.0); 3 cr. Integration; applications of definite integrals; areas, volumes, length, moments. Transcendental functions; Inverse functions and their derivatives, hyperbolic functions and their derivatives, Techniques of integration. *Prerequisite:* MAT 111 or Placement.

MAT 113 Intensive Calculus (3.0); 3 cr. The course covers rapidly and thoroughly the main concepts in single variable calculus. It covers the concepts of limits and continuity; differentiation: differentiation rules, chain rule, implicit differentiation, related rates, extreme values of functions, Mean-Value Theorem, curve sketching, L'Hopital's rule; Integration: definite integral, Fundamental Theorem of Calculus, area between curves, volumes of rotation; transcendental functions; techniques of integration: integration by parts, trigonometric integrals and substitutions, integration of rational functions. *Prerequisite:* Placement or Freshman Standing.

MAT 201 Fundamentals of Mathematics (3.0); 3 cr. Sets; the real number system; absolute value and its properties; exponents and radicals; polynomials, applied linear equations and inequalities; Cartesian product; coordinate axes; graphs, and functions. *Prerequisite:* Sophomore Standing or Placement.

MAT 202 Mathematics for Arts (3.0); 3 cr. Principles of coordinate geometry; symmetry of motion; rigid motions; reflections; rotations; translation; glide reflections; classifying patterns; symmetry of scale and fractals. *Prerequisite:* Sophomore Standing.

MAT 204 Mathematics for Business and Economics I (3.0); 3 cr. This course is designed to introduce topics in calculus and matrix analysis with applications to business, management, economics and social science. *Prerequisite:* Sophomore Standing.

MAT 205 Mathematics for Business and Economics II (3.0); 3 cr. Sequences; arithmetic and geometric progression. Simple interest; compound interest. Continuous compounding; annuities; amortization and sinking funds. Bonds and stocks. Capital budgeting and depreciation. *Prerequisite:* Sophomore Standing. Accumulation and discounting, simple and compound interest, effective and nominal interest, discount rates, forces of interest and discount, varying interest. Equations of value. Annuities immediate and due. Perpetuities. Amortization schedules and sinking funds. Introduction to bonds. *Prerequisite:* Sophomore Standing.

MAT 206 Financial Mathematics (3.0); 3 cr. This course describes the fundamental concepts of financial mathematics and how these values are applied in calculating the present and accumulated values of various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Also the course introduces financial instruments such as derivatives and the concept of no-arbitrage. *Prerequisite:* Sophomore Standing.

MAT 211 Discrete Mathematics (3.0); 3 cr. Arithmetic in different bases; set theory; relations and functions; mathematical reasoning and induction; counting techniques; permutations and combinations; logic; Boolean algebra; and lattice theory. *Prerequisite:* Sophomore Standing.

MAT 213 Calculus III (3.0); 3 cr. Improper integrals. Infinite sequences and series, power series. Taylor and Maclaurin series. Polar coordinates: graphing, integration and areas in

polar coordinates. Vectors and vector-valued functions and motion in space. *Prerequisite:* MAT 112 or MAT 113 or Placement.

MAT 214 Applied Linear Algebra (3.0); 3 cr. An introduction to basic ideas and techniques of Linear Algebra for sophomore students. The course covers Linear systems Matrices, Determinants, Eigen values and Eigen vectors. Each of these topics is followed by one or more applications. *Prerequisite:* Sophomore Standing.

MAT 215 Linear Algebra I (3.0); 3 cr. Linear systems and matrices and their applications; determinants; vector spaces; subspaces, basis and dimension, rank and nullity. Eigenvalues and eigenvectors; linear transformations and their algebraic properties. *Prerequisite:* Sophomore Standing.

MAT 220 Introduction to Mathematical Software Packages (1.0); 1 cr. The course introduces commercial software packages, such as Matlab, Maple, Mathematica and Derive, for numerical computations and symbolic manipulations. *Prerequisite:* Sophomore standing.

MAT 224 Calculus IV (3.0); 3 cr. Cylinders and quadric surfaces. Functions of several variables: limits, continuity, partial derivatives, Chain Rule, directional derivatives, gradients, tangent planes, differentials, extreme values, and Lagrange multipliers. Multiple integrals: areas and volumes, triple integrals in rectangular, cylindrical and spherical coordinates. Integration in vector fields, Green's Theorem in the plane, Stoke's Theorem, the Divergence Theorem. *Prerequisite:* MAT 213

MAT 225 Vector Calculus (3.0); 3 cr. This course introduces vectors in Cartesian and curvilinear coordinate systems, the graphs and gradient of a real valued function, paths are length and vector fields, geometry of maps, double and triple integrals, line and surface integrals, and projective geometry, *Prerequisite:* MAT 213.

MAT 235 Ordinary Differential Equations (3.0); 3 cr. First-order ordinary differential equations. Higher-order linear differential equations. Power series solution: ordinary and singular points. Laplace transform, convolution. Systems of linear differential equations. *Prerequisite:* MAT 213.

MAT 303 Mathematical Logic and Set Theory (3.0); 3 cr. Axiomatic theory of sets; the

axiom of choice; propositional logic; quantification theory; formal construction of the sets \mathbb{N} ; \mathbb{Z} ; \mathbb{Q} ; \mathbb{R} ; and \mathbb{C} . Cardinal numbers and their arithmetic; ordinal numbers and transfinite induction. *Prerequisite:* MAT 211.

MAT 305 Number Theory (3.0); 3 cr. Foundations of arithmetic; properties of integers and prime numbers; unique factorization; congruence; Diophantine equations; theorems of Fermat; Euler; and Wilson; quadratic reciprocity. *Prerequisite:* MAT 211.

MAT 312 Graph Theory 3 cr. Basic concepts of graph theory, the use of paths and cycles in some applied algorithms such as the traveling salesman problem, the use of trees in computing and computer networks, planarity of graph and its use in coloring problem, the directed graph with applications on the marriage problem, the Latin squares and network flows. *Prerequisite:* MAT 211.

MAT 315 Linear Algebra II (3.0); 3 cr. Inner product spaces, orthonormal spaces, orthogonal matrices, change of basis. Eigenvalues, orthogonal diagonalization. Applications. General linear transformations. Inverse of and matrix of a linear transformation, similarity. *Prerequisite:* MAT 215.

MAT 323 Vector and Tensor Analysis (3.0); 3 cr. Cartesian and curvilinear coordinate systems. Line integrals; Green's theorem; the divergence theorem; and Stock's theorem. Curl and divergence. Introduction to tensor analysis and its applications. *Prerequisite:* MAT 224.

MAT 324 Mathematics for Engineering (3.0); 3 cr. Functions of a complex variable, Cauchy-Riemann equations; integration in the complex plane; series and residues, evaluation of real integrals. *Prerequisite:* MAT 224.

MAT 325 Elements of Probability (3.0); 3 cr. Probability of events; axioms of probability; conditioning and independence; random variable and expectations; discrete and continuous distributions; moment generating functions; the Central Limit Theorem. *Corequisite:* MAT 224.

MAT 326 Probability & Statistics For Engineers (3.0); 3 cr. Concepts of probability, random variables, mathematical expectation, variance, confidence intervals. Estimation, testing of statistical hypotheses, regression and correlation, analysis of variance. *Corequisite:* MAT 224.

MAT 330 Probability Models (3.0); 3 cr. Conditional probability and conditional expectation, discrete and continuous Markov chains, the Exponential distribution and Poisson process, queuing theory and reliability theory. *Prerequisite:* MAT 325.

MAT 333 Complex Variables (3.0); 3 cr. Analytic functions; derivatives; Cauchy-Reimann equations; complex integration; Cauchy integral theorem; power series; Laurent series; residue theorem; conformal mapping; Cauchy-Christoffel transformation. *Prerequisite:* MAT 224.

MAT 335 Partial Differential Equations (3.0); 3 cr. Second order linear partial differential equations – heat, wave and Laplace’s equations; Fourier series; separation of variables; Fourier Integral; Fourier and Laplace transforms; Dirichlet and Neumann problems for different domains; first order equations; characteristic method; systems of equations. *Prerequisite:* MAT 224, MAT 235.

MAT 337 Foundations of Geometry (3.0); 3 cr. Introduces the axiomatic method, Euclidean and non-Euclidean geometries; historical developments in geometry. This course is primarily designed for students interested in mathematics education. *Prerequisite:* MAT 215, MAT 224.

MAT 339 Numerical Analysis (3.0); 3 cr. Error analysis; roots for non-linear equations; polynomial interpolation; approximation of functions by polynomials; numerical differentiation and integration. *Prerequisite:* MAT 224 and a Computer Programming Language.

MAT 340 Game Theory (3.0); 3 cr. Introduction to zero-sum games - normal and extensive forms; Minimax theorem; Solution by Graphical and linear programming techniques, dominance; infinite continuous and discrete games; convex-concave games; introduction to non-zero sum games. *Prerequisite:* MAT 211.

MAT 400 Elementary Differential Geometry (3.0); 3 cr. The main purpose of this course is the study of curves and surfaces in three-dimensional Euclidean space: Tangent space, vector fields, Gauss map, geodesics, curvature, minimal surfaces, the Gauss-Bonnet Theorem, and an introduction to smooth manifolds. *Prerequisite:* MAT 224.

MAT 411 Group Theory (3.0); 3 cr. Groups; permutation groups; finite abelian groups; the Sylow theorems and their applications. *Prerequisite:* Senior standing.

MAT 412 Topology I (3.0); 3 cr. This course covers review of set theory and logic, metric spaces, topological spaces, connectedness and compactness. *Prerequisite:* MAT 211 and Senior Standing.

MAT 413 Introduction to Real Analysis I (3.0); 3 cr. The topological properties of the real number system; uniform continuity; Weierstrass approximation theorem; Riemann-Stieltjes integral; uniform convergence; improper integrals with a parameter; the Beta and Gamma functions. *Corequisite:* MAT 412 and Senior Standing.

MAT 418 Numerical Linear Algebra (3.0); 3 cr. The course presents mathematical algorithms and analysis to solve linear systems of equations and matrix eigenvalue problems. Matrix norms and analysis. Direct and iterative methods: including factorization methods, singular value decomposition, Jacobi and Gauss-Seidel iteration, power methods, QR algorithm. Operation counts, condition numbers and error analysis. *Prerequisite:* MAT 215, MAT 224, and a Programming language.

MAT 421 Rings and Fields (3.0); 3 cr. Rings; ideals; quotient rings; Euclidean rings; polynomial rings; field extensions; automorphism of fields; separable and normal extensions; finite fields; Galois theory.. *Prerequisite:* MAT 411 and senior standing.

MAT 423 Introduction to Real Analysis II (3.0); 3 cr. Jacobian’s of transformations; functional dependence; transformations of multiple integrals; extremal problems of functions of several variables; integrals over curves and surfaces; differential forms; independence of path; exact differential forms. *Prerequisite:* MAT 413.

MAT 430 Topology II (3.0); 3 cr. This course is a continuation of Topology I, it introduces countability and separation axioms, completely regular spaces, Complete metric spaces, the fundamental groups and covering spaces. *Prerequisite:* MAT 412.

MAT 431 Vector Spaces and Modules (3.0); 3 cr. Vector spaces and modules; homomorphisms; groups, rings, and modules of matrices; exact sequences; direct sum

decompositions; dual spaces; canonical forms; multilinear algebra. *Prerequisite:* MAT 411.

MAT 450 Introduction to General Topology (3.0); 3 cr. Topological spaces; metric spaces; compactness and connectedness; continuity; product and quotient spaces; function spaces; separation and countability axioms; normal and

completely regular spaces. *Prerequisite:* Senior Standing.

MAT 460 Selected Topics in Mathematics (3.0); 3 cr. Students study selected contemporary topics in Mathematics. *Prerequisite:* Specified when Offered.

Our Graduate Program

The department of mathematics and statistics offers MS degree programs in both pure and applied mathematics. The purpose of the MS program is to prepare students for continued advanced study of mathematics, college teaching, or certain jobs requiring an in- depth understanding of mathematics.

The Degree of Master of Science in Mathematics

Admission Requirements

In addition to the university graduate admission requirements, candidates are expected to have a sufficient background in mathematics. Those who do not meet these requirements may be given provisional admission pending satisfactory completion of a set of undergraduate courses. The credits earned for these courses will not be counted towards the 33 credits required for the degree of Master of Science in Mathematics.

Graduation Requirements

To satisfy the requirements for the degree of Master of Science in Mathematics, the student must complete a total of 33 credits with an overall average of at least 3.0/4.0.

Tracks Offered

The department offers two tracks: One in pure mathematics and one in applied mathematics. Within each track students have also a choice to pursue a course work option or a thesis option.

Pure Mathematics Degree Requirements (*Course-Work Option*) (33 credits)

Core courses **21 cr.**
MAT 621, MAT 623, MAT 625, MAT 632, MAT 634, MAT 636, MAT 681

12 credits to be chosen from the following pool: **12 cr.**
MAT 635, MAT 641, MAT 642, MAT 645, MAT 655, MAT 657, MAT 659,
MAT 664, MAT 671, MAT 673

Pass three Comprehensive Written Examinations (CWE1, CWE2 and CWE3) after having completed at least 18 credits with an overall GPA of 3.0/4.0

CWE1 is an exam in MAT 621.

CWE2 is an exam in MAT 623.

CWE3 is an exam either in a one-year-sequence of two graduate courses (the sequence is to be freely chosen by the student), or in the complementary courses of MAT 621 and MAT 623, which are MAT 632 and MAT 634. Those who fail any CWE are allowed to retake it, but no later than the end of the following academic year.

**Pure Mathematics
Degree Requirements (*Thesis Option*)
(33 Credits)**

Core courses **18 cr.**
MAT 621, MAT 623, MAT 625, MAT 632, MAT 634, MAT 636

9 credits to be chosen from the following pool **9 cr.**
MAT 635, MAT 641, MAT 642, MAT 645, MAT 655, MAT 657, MAT 659,
MAT 664, MAT 671, MAT 673

Two “thesis courses” MAT 691 and MAT 692 **6 cr.**

**Applied Mathematics
Degree Requirements (*Course-Work Option*)
(33 credits)**

Core courses **24 cr.**
MAT 621, MAT 623, MAT 625, MAT 641, MAT 642, MAT 667, MAT 668,
MAT 681

9 credits to be chosen from the following pool: **9 cr.**
MAT 600, MAT 601, MAT 634, MAT 635, MAT 645, MAT 661, MAT 662,
MAT 664, MAT 669, STA 500, STA 614, STA 653, STA 654, STA 663, STA
664

**Pass three Comprehensive Written Examinations (CWE1, CWE2 and
CWE3) after having completed at least 18 credits with an overall average of
3.0/4.0**

CWE1 is an exam in MAT 621.

CWE2 is an exam in MAT 623.

CWE3 is an exam in a one-year-sequence of two graduate courses. (The
sequence is to be freely chosen by the student). Those who fail any CWE are
allowed to retake it, but no later than the end of the following academic year.

**Applied Mathematics
Degree Requirements (*Thesis Option*)
(33 Credits)**

Core courses **21 cr.**
MAT 621, MAT 623, MAT 625, MAT 641, MAT 642, MAT 667, MAT 668

6 credits to be chosen from the following pool **6 cr.**
MAT 600, MAT 601, MAT 634, MAT 635, MAT 645, MAT 661, MAT 662,
MAT 664, MAT 669, MAT 683, STA 500, STA 614, STA 653, STA 654, STA
663, STA 664

Two “thesis courses” MAT 691 and MAT 692 **6 cr.**

Regulations concerning the “thesis courses” of the Master of Science in Mathematics

Master Thesis

Students may register for the thesis courses MAT 691 & MAT 692 upon the completion of at least 18 credits with an overall average of at least 3.3/4.0 and after receiving the approval of both the department chairperson and the thesis advisor.

Duration of Work

The work for the thesis is expected to be completed within a period of two semesters.

Jury for the Oral Defense

After receiving a written note of completion along with five bound copies of the master thesis from the master thesis advisor, the department chairperson shall appoint the jury for the oral defense and its chairperson, and shall distribute to each member one copy of the master thesis. The jury shall consist of the master thesis advisor and three full-time faculty members one of whom is from outside the department.

Schedule for the Oral Defense

The oral defense for the master thesis shall be scheduled by the jury chairperson one month from the date of the appointment of the jury at the latest.

Evaluation and Grade

Bound master thesis copies are required for the evaluation. The jury shall evaluate the work for the master thesis and assign the appropriate grade by a majority vote. In case of a tie, the committee chairperson shall have the casting vote.

Final Copy of the Master Thesis

The student shall submit seven bound copies of the approved final copy of the master thesis to the jury chairperson who, in turn, shall distribute them to the Library, Faculty, Department, and to each member of the jury.

Graduate Courses: Mathematics

MAT 600 Graph Theory (3.0); 3 cr. Graphs; subgraphs; connectivity; trees; Hamilton graphs; matchings; coverings; coloring; Ramsey graph theory; connectedness in digraphs. Euler and Hamilton graphs; networks. *Prerequisite:* Graduate Standing.

MAT 601 Optimization Theory (3.0); 3 cr. The course deals with the mathematical theory and algorithms for optimization. Convex functions and sets; Unconstrained optimization: steepest descent, Newton, gradient methods, search methods, least squares; Constrained optimization theory: Kuhn-Tucker conditions; linear programming, quadratic programming, nonlinear programming, penalty methods. Some applications are also considered. *Prerequisite:* Graduate Standing.

MAT 621 Algebra I (3.0); 3 cr. Free Abelian groups; finitely generated Abelian groups; the action of a group on a set; the Sylow theorems; nilpotent and solvable groups. Rings and localization; polynomial rings and factorization. *Prerequisite:* Graduate Standing.

MAT 623 Real Analysis I (3.0); 3 cr. Measure spaces; Borel and Lebesgue measure; abstract integration and differentiation; integration on product spaces; functions of bounded variations; L spaces. *Prerequisite:* Graduate Standing.

MAT 625 General Topology (3.0); 3 cr. Topological spaces; the metric topology; connected spaces; compact spaces; Homotopy of paths; the Fundamental groups; Cospaces; essential and inessential maps. *Prerequisite:* Graduate Standing.

MAT 632 Algebra II (3.0); 3 cr. Basic properties of rings. Ideals and quotient rings. Ring Homeomorphisms. Polynomial rings. Left and right modules. Free modules. Direct sums of modules. Finitely generated modules over a p.i.d. Artinian and Noetherian modules. Completely reducible modules. Tensor product of modules. Bimodules. Algebras and coalgebras. Projective and injective modules. Primitive and semi-primitive rings. The radical of a ring. *Prerequisite:* MAT 621.

MAT 634 Complex Analysis (3.0); 3 cr. Power series representation; conformal mappings; zeros of holomorphic functions; analytic continuation; normal families; HP spaces. *Prerequisite:* MAT 623.

MAT 635 Harmonic Analysis & Potential Theory (3.0); 3 cr. Harmonic and subharmonic functions. Convexity. Elements of potential Theory. Thinness. Harmonic measure. Green's Functions. Capacity. Applications to spaces and Banach algebras. *Prerequisite:* MAT 623.

MAT 636 Algebraic Topology (3.0); 3 cr. Singular homology theory; attaching spaces with maps; the Eilenberg - Steenrod axioms; products; manifolds and Poincaré duality; fixed point theory. *Prerequisite:* MAT 625.

MAT 641 Theory of Ordinary Differential Equations (3.0); 3 cr. Existence and Uniqueness Theorems. Linear systems with constant coefficients. Matrix analysis and Matrix Exponential. Stability. Periodic coefficients. Two-Dimensional Autonomous linear and nonlinear systems. Phase plane analysis. Liapunov stability. Limit cycles and the Poincaré-Bendixson Theorem. Stability of Linear non-autonomous systems. *Prerequisite:* Graduate Standing.

MAT 642 Theory of Partial Differential Equations (3.0); 3 cr. The single First-Order equation. The Cauchy problem. Systems of First-Order equations. Characteristics. The Cauchy-Kowalevski Existence and Uniqueness Theorem. Elliptic equations. The Laplace equation. The Lagrange-Green identity. The Maximum principle. Harmonic and subharmonic functions. Green's function and the Poisson formula. Hyperbolic equations in higher dimensions. The wave equation. The method of Spherical means. Hadamard's method of descent. Hyperbolic equations with constant coefficients. Solution by the n -dimensional Fourier Transform. Parabolic equations. The Heat equation. *Prerequisite:* Graduate Standing.

MAT 645 Theory of Integral Equations (3.0); 3 cr. The course covers an introduction to the theory of linear and nonlinear integral equations. Solutions of Volterra and the Fredholm equations of the first and second kind. Fredholm's alternative theorem. Orthonormal eigensystems of a symmetric Fredholm operator. The Hilbert-Schmidt expansion theorem and its applications to Sturm-Liouville problems. *Prerequisite:* MAT 641.

MAT 655 Field Theory (3.0); 3 cr. Basics on fields. Splitting fields. Extension fields. The Galois group. Galois criterion for solvability by

radicals. Finite fields. Ordered fields. Algebraic closure of fields. Separability and normality of extension fields. Kummer extension fields. Algebras over a field. Derivations of subalgebras. *Prerequisites:* MAT 621, MAT 632

MAT 657 Commutative Algebra (3.0); 3 cr. Commutative Rings and their ideals. Modules over commutative rings. Localization of rings and modules. Integral extensions. Valuations and valuation rings. Completion. Dimension theory. Basic elements of algebraic geometry. *Prerequisites:* MAT 621, MAT 632, MAT 655.

MAT 659 Category Theory & Homological Algebra (3.0); 3 cr. General categories. Functors. Functorial morphisms. Equivalence of categories. Products and coproducts. The Hom functors. Universal objects. Inductive and projective objects. Additive and Abelian categories. Complexes and homology. Resolutions and derived functors. Ext and Tor functors. Cohomology of algebras. Homological dimension. *Prerequisite:* MAT 632.

MAT 661 Computational Mathematics I (3.0); 3 cr. Matrix norm; residual vector; condition number; perturbation analysis; operations count; sparse matrices; LU-decomposition diagonally dominant matrices; iterative techniques for linear systems; and eigenvalues and eigenvectors. *Prerequisite:* Graduate Standing.

MAT 662 Computational Mathematics II (3.0); 3 cr. QR-decomposition; over determined linear systems; least-square solutions; the generalized inverse A^+ ; positive-definite matrices; Cholesky's decomposition; the singular value decomposition; Given's and Householder's algorithms. *Prerequisite:* MAT 661.

MAT 663 Information Theory (3.0); 3 cr. Measures of information: entropy, relative entropy and mutual information. Basic inequalities: Jensen, log-sum, Fano, data processing theorem. Typicality and the asymptotic equipartition property. Entropy rate of stationary sources. Data compression of discrete memoryless sources: Kraft inequality, Huffman code, Shannon-Fano-Elias code. Discrete memoryless channels: definition of capacity and its computation. Communication over discrete channels: the channel coding theorem and the physical significance of capacity. The joint source-channel coding theorem. Measures of information for sources

with continuous range. Discrete-time Gaussian channels and their capacity. *Prerequisite:* Graduate Standing.

MAT 664 Functional Analysis (3.0); 3 cr. Spaces and operators: Metric spaces, normed and Banach spaces, linear operators, inner product, Hilbert spaces. Fundamental theorems: Hahn-Banach theorem, uniform boundedness theorem, open mapping theorem, closed graph theorem. Spectral theory: basic concepts, operators on normed spaces, compact operators, self-adjoint operators. *Prerequisite:* MAT 623.

MAT 667 Numerical Analysis I (3.0); 3 cr. Linear Systems. LR and QR Decomposition. Basic Functional Analysis. Matrix Norms. Completeness. The Banach Fixed Point Theorem. Iterative Methods for Linear Systems. Ill-conditioned Linear Systems. *Prerequisite:* Graduate Standing.

MAT 668 Numerical Analysis II (3.0); 3 cr. Iterative Methods for Nonlinear Systems. Least Squares Problems. Matrix Eigenvalue Problems. The QR-Algorithm. Interpolation. Numerical Integration. Convergence of Quadrature Formulas. *Prerequisite:* MAT 667.

MAT 669 Numerical Analysis III (3.0); 3 cr. Initial Value Problems. Picard-Lindelöf Theorem. Single and Multi-Step Methods. Boundary Value Problems. Finite Difference Methods. The Finite-Element Method. Integral Equations. Stability. *Prerequisites:* MAT 668.

MAT 671 Differential Geometry (3.0); 3 cr. Smooth manifolds, smooth maps, the inverse function theorem, vector fields on manifold, vector bundles, cotangent bundle, submersions, submanifolds, Lie groups, tensor fields on manifold, differential forms, and integration on manifolds. *Prerequisite:* Graduate Standing.

MAT 673 Differential Topology (3.0); 3 cr. Manifolds and maps, manifolds with boundary, transversality, vectors bundles and tubular neighborhoods, degrees of maps, intersection numbers and the Euler characteristics, Lefschetz fixed-point theorem, Borsuk-Ulam theorem, and Morse theory. *Prerequisites:* MAT 625, MAT 671.

MAT 681 Master Project (3.0); 3 cr. A substantial project in a topic in mathematics under the supervision and the approval of a faculty member.

MAT 683 Directed Reading (3.0); 3 cr. A topic in mathematics of interest will be studied under the supervision of a faculty member – evaluated as a tutorial course.

MAT 691 Master Thesis in Mathematics I; 3 cr. The research for the master thesis must show

the student's proficiency in approved topics in mathematics. *Prerequisite:* Advisor Consent.

MAT 692 Master Thesis in Mathematics II; 3 cr. Continuation of MAT 691. *Prerequisites:* MAT 691 and Advisor Consent.

DEPARTMENT OF SCIENCES

Chairperson: *Dr. Antoine Farhat*

Secretary: *Mrs. Yolla Chalhoub-Abboud*

Associate Professors

El-Hage, Youssef Kamal, Ph.D., 1990; Technische Universität München, Germany

Physics

M.A., 1985; Lebanese University, Lebanon

Philosophy

Khalaf-Keirouz, Layla, Ph.D., 1995, Westfälische Wilhelms-Universität, Germany

Environmental Geology

Assistant Professors

Dib, Robert, Doctorate, 1998, Université de Nantes, France

Biochemistry

Doumit Jacqueline, Doctorate, 1996, Université de Saint-Etienne, France

Biomedical Engineering

Farhat, Antoine, Ph.D., 1999, McGill University, Canada

Nutrition

Hage, Tanos G., Ph.D., 1995, Pennsylvania State University, USA

Plant Biochemistry and Molecular Biology

Hajjar, Roger, Ph.D., 1997, Université de Montréal, Canada

Physics and Astronomy

Haroun, Michelyne, Ph.D., 2001, Université de Paris V, France

Chemistry

Jaalouk, Doris, Ph.D., 1997, Université de Sherbrooke, Canada

Cell Biology

Kabrita-Bou Serhal, Colette, Ph.D., 1998, Northeastern University, Boston, USA

Circadian Biology

Noun-Karam, Ghada, Doctorate, 1998, Université de Paris XI, Orsay, France

Immunology

Sabra, Bassem, Ph.D., 2000, Ohio University, USA

Physics

Trarat, Christophe, Ph.D., 1999, Université de Paris V, France

Organic Chemistry

Lecturer

Ghossoub El Aswad, Zeina, M.S., 1997, American University of Beirut, Lebanon

Nutrition

Academic Assistants

El Ghossein-Maalouf, Nada, M.S., 1996, American University of Beirut, Lebanon

Biology

El-Hage, El-Amm, Rita, M.P.H., 1988, American University of Beirut, Lebanon

Public Health

Zoghbi, Catherine, DEA, 2003, Lebanese University, Lebanon

Physics

Laboratory Assistant

Saliba-Tabet, Elizabeth, B.S., 1999, Lebanese University, Lebanon

Biology

Programs of Study

The department of sciences offers a Freshman Science program and an undergraduate program leading to the degrees of:

- BS in Biology (102 Credits) (3 concentrations)
- BS in Environmental Science (104 Credits)
- BS in Medical Laboratory Technology (103 Credits)
- BS in Physics (95 Credits)
- BS in Chemistry (98 Credits) (4 concentrations)
- BS in Nutrition and Dietetics (94 Credits)

The department of sciences also offers a variety of undergraduate service courses in astronomy, chemistry, geology, health and nutrition. These courses are meant to serve academic programs offered by other Faculties of the University.

Our Freshman Science Program

Academic Advisor: *Dr. Doris Jaalouk*

The **Freshman Science** program consists of a minimum of 30 credits. This program is equivalent to the official Lebanese Baccalaureate Part II (Scientific Strands). It normally requires a minimum period of 2 semesters. For more details on this program, refer to the subsection “*Freshman Program*” within the section “*GER, Freshman Program and Degrees*”.

Our Undergraduate Program

The Degree of Bachelor of Science in Biology

The biology program is designed to prepare students for a wide range of employment opportunities, including access to professional schools in medicine, veterinary science, dentistry, agriculture and education. It also provides solid background for those interested in careers related to environmental protection, wildlife management, biotechnology and genetic engineering. A BS degree in biology can also lead to post-graduate studies & research careers in universities, research institutes, hospitals & industrial or governmental laboratories.

Admission Requirements

For admission requirements to the degree of BS in biology, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Biology, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 102 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements and clear all accounts with the university. Candidates for degrees are reminded that grades of “*F*” assigned during the last semester to courses required for graduation will result in delaying of graduation.

**Degree Requirements
(102 credits)**

| | |
|---|-------------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 40 cr. |
| BIO 211, BIO 212, BIO 220, BIO 227, CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, PHS 208, PHS 209, PHS 278, PHS 279, STA 203. | |
| Major Requirements | 29 cr. |
| BIO 324, BIO 335, BIO 485 | |
| Choose two biology courses 4 credits each. | |
| Choose four biology courses 3 credits each, excluding BIO 202 and BIO 203. | |
| Free Electives | 6 cr. |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Bachelor of Science in Biology
Suggested Program (102 Credits)**

Fall Semester I (16 Credits)

| | | | |
|-----|-------------|----------------------------------|-------|
| BIO | 211 | General Biology I | 4 cr. |
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| ARB | 211/ 231 | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-------------|--------------------------------|-------|
| BIO | 212 | General Biology II | 4 cr. |
| CHM | 221 | Organic Chemistry I | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| STA | 203 | Biostatistics | 3 cr. |
| REG | 212/ 213 | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| BIO | 220 | Genetics | 3 cr. |
| CHM | 222 | Organic Chemistry II | 3 cr. |
| CHM | 272 | Organic Chemistry Laboratory | 2 cr. |
| PHS | 208 | Physics for Life Sciences I | 3 cr. |
| PHS | 278 | Physics for Life Sciences I Lab | 1 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (14 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| BIO | 227 | Introductory Biochemistry | 3 cr. |
| CHM | 215 | Quantitative Analysis | 4 cr. |
| PHS | 209 | Physics for Life Sciences II | 3 cr. |
| PHS | 279 | Physics for Life Sciences II Lab | 1 cr. |
| BIO | — | | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|---|---|---------------|-------|
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Option 1: No Concentration - General Biology

Fall Semester III (14 Credits)

| | | | |
|-----|-----|--------------|-------|
| BIO | 335 | Cell Biology | 4 cr. |
| BIO | — | | 3 cr. |
| BIO | — | | 4 cr. |
| BIO | — | | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|------------------|-------|
| BIO | 324 | Plant Physiology | 4 cr. |
| BIO | 485 | Seminar | 1 cr. |
| BIO | — | | 4 cr. |
| BIO | — | | 3 cr. |
| — | — | Free Elective | 3 cr. |

Option 2: Concentration – Biotechnology

Fall Semester III (14 Credits)

| | | | |
|-----|-----|---------------------|-------|
| BIO | 320 | Microbiology | 4 cr. |
| BIO | 334 | Molecular Biology | 3 cr. |
| BIO | 335 | Cell Biology | 4 cr. |
| BIO | 337 | Biochemical Methods | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---------------------|-------|
| BIO | 324 | Plant Physiology | 4 cr. |
| BIO | 336 | Basic Biotechnology | 3 cr. |
| BIO | 400 | Bioinformatics | 4 cr. |
| BIO | 485 | Seminar | 1 cr. |
| — | — | Free Elective | 3 cr. |

Option 3: Concentration - Environmental Biology**Fall Semester III (14 Credits)**

| | | | |
|-----|-----|-----------------------------|-------|
| BIO | 314 | Ecology | 3 cr. |
| BIO | 320 | Microbiology | 4 cr. |
| BIO | 335 | Cell Biology | 4 cr. |
| ENS | 451 | Environmental Biotechnology | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|----------------------|-------|
| BIO | 324 | Plant Physiology | 4 cr. |
| BIO | 325 | Marine Biology | 4 cr. |
| BIO | 424 | Conservation Biology | 3 cr. |
| BIO | 485 | Seminar | 1 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Biology

BIO 101 Introduction to Biology (3.0); 3 cr. An introduction to the fundamental principles of biology. Covers chemical basis of life, structure and function of cells and tissues, basic genetic concepts, as well as structure and function of human body systems. *Prerequisite:* Freshman Standing.

BIO 171 Introduction to Biology Laboratory (0.3); 1 cr. Laboratory course illustrating the concepts and theory taught in Introduction to Biology.

BIO 202 Mystery of life (3.0); 3 cr. “Big picture” of cosmic evolution: Formation of chemical elements, stars and planets, prebiotic evolution, origin and evolution of life on Earth. The way humans are affecting the course of evolution by altering the genetic makeup of organisms, as well as other aspects of applied biology.

BIO 203 Discover Biology (3.0); 3 cr. A general introductory course that covers the basic principles and concepts of Biology with current applications. Not open for Biology students.

BIO 207 Biochemistry for Nursing (3.0); 3 cr. This course is a general overview of the basic concepts in biochemistry. It reviews the essentials of general and organic chemistry, discusses the main biochemical pathways in the cell and emphasizes the relevance of the concepts to clinical disorders.

BIO 211 General Biology I (3.2); 4 cr. This course introduces major concepts of biology including the organization of life on all levels; metabolism and energy transactions involved in life processes; the transfer of information and the diversity and classification of organisms. *Prerequisite:* Sophomore Standing.

BIO 212 General Biology II (3.2); 4 cr. It covers the study of structure and life processes in plants and animals. *Prerequisite:* BIO 211.

BIO 214 Human Anatomy (3.0); 3 cr. General human anatomy, emphasizing human scales, proportions, articulation, and factors influencing movements. *Prerequisite:* BIO 211.

BIO 215 Human Physiology (3.0); 3 cr. A study of the fundamental principles and mechanisms that govern body functions in humans. *Prerequisite:* BIO 211.

BIO 216 Microbiology and Immunology for Nursing (3.0); 3 cr. A study of the essentials of basic and clinical microbiology and immunology that includes immunology, bacteriology, virology, physiology and mycology. *Prerequisite:* BIO 207.

BIO 217 Pathophysiology (3.2); 4 cr. The content of this course refers to three major areas based on the health-illness continuum: control of normal body function, alteration in body function, and failure in any system or part of body function. *Prerequisite:* BIO 215.

BIO 218 Histology (2.2); 3 cr. An introduction to the microscopic structure of tissues and organs, with particular emphasis on the interrelation between structure and function. *Prerequisite:* BIO 211.

BIO 220 Genetics (3.0); 3 cr. Mendelian genetics & extensions of Mendelian analysis; population & quantitative genetics; molecular genetics: DNA structure and replication, organization of DNA in chromosomes, gene & chromosomal mutations, gene expression and its regulation, recombinant DNA technology. *Prerequisite:* BIO 211.

BIO 222 Immunology (3.0); 3 cr. Detailed description of the components of the immune system: their development, differentiation & functioning during an immune response; immune response to pathogens, tumors & grafts; immunopathologies; basic immunological techniques. *Prerequisite:* BIO 211.

BIO 226 Evolution (3.0); 3 cr. Study of processes that bring about evolutionary changes in organisms, evolutionary trends, patterns of adaptations, and principal factors that influence the patterns of speciation. *Prerequisite:* BIO 220.

BIO 227 Introductory Biochemistry (3.0); 3 cr. An introduction to the structure-function relationships of biomolecules, enzymes, metabolic reactions & biochemical energetic of living cells. *Prerequisite:* BIO 211, *Prerequisite:* CHM 221 or *Corequisite:* CHM 213.

BIO 228 Parasitology (3.2); 3 cr. Provides a general overview on the classification, morphology, development & physiology of human and animal parasites. *Prerequisite:* BIO 212.

BIO 314 Ecology (3.0); 3cr. Principles of ecosystems; the interaction of organisms & their environment. Food web, energy flow & nutrient cycling in ecosystems. Factors which affect the distribution & abundance of species: Wildlife resources & extinction. *Prerequisite:* BIO 212, also listed as ENS 303

BIO 316 Economic Botany (3.0); 3cr. The course provides an introduction to the study of botany and the economic uses of plants in industry, production of food and medicine. *Prerequisite:* BIO 212.

BIO 320 Microbiology (3.2); 4 cr. Covers structures, isolation, classification and metabolic diversity of microorganisms. *Prerequisite:* BIO 220 or BIO 227.

BIO 322 Virology (3.0); 3 cr. Provides a general overview on the classification, biophysical & biochemical characteristics of bacterial, plant and animal viruses. *Prerequisite:* BIO 212.

BIO 324 Plant Physiology (3.2); 4 cr. Basic principles of plant physiology; the physiological processes of green plants and the effect of the environment on these processes. *Prerequisites:* BIO 212, BIO 227.

BIO 325 Marine Biology (3.2); 4 cr. Covers biology of marine life, with emphasis on the roles that marine plants and animals assume in their environmental situations, & the structural and physiological adaptations necessary to fulfill those roles. *Prerequisite:* BIO 212.

BIO 332 Developmental Biology (3.2); 4 cr. The course sheds light on the major events and processes that accompany animal development—from the fusion of two cells to the creation of a more complex multicellular organism. The molecular mechanisms underlying such developmental processes are considered. The impacts of special environmental and pharmacological agents on animal development are also emphasized. *Prerequisite:* BIO 212.

BIO 334 Molecular Biology; (3.0) 3cr. Provides an understanding of the molecular basis of biological phenomena with emphasis on the fundamental processes common to all organisms: enzyme catalysis, DNA, RNA and protein synthesis, and mechanism of gene expression. Includes a description of common molecular biology techniques for gene study and manipulation. *Prerequisites:* BIO 220, BIO 227.

BIO 335 Cell Biology (3.2); 4 cr. Provides students with a basic understanding of the structure and function of the eukaryotic cell. *Prerequisite:* BIO 227.

BIO 336 Basic Biotechnology (3.0); 3 cr. Covers broadly the development of the field of biotechnology: methods and applications. Covers topics such as principles of recombinant DNA technology and its applications to studies of animals, plants, medicine, forensics and human genome project. *Prerequisite:* BIO 227.

BIO 337 Biochemical Methods; (3.0) 3 cr. Introduction to basic methods used in studies of enzymes, proteins, nucleic acids and their interactions. Different methods of extraction, purification, analysis and production of biomolecules are discussed in general but also by means of some precise examples. *Prerequisite:* BIO 227.

BIO 340 Metabolic Endocrinology (3.0) 3 cr. A comprehensive study of the general principles of endocrinology with emphasis on intermediate metabolism and heritable endocrine disorders. *Prerequisite:* BIO 215.

BIO 400 Bioinformatics (3.2); 4 cr. An introduction to computer analysis of macromolecular structure information. This course describes how to access, process and interpret structural information regarding biological macromolecules as a guide to experiments in Biology. *Prerequisites:* BIO 220, BIO 227, senior standing.

BIO 411 Plant Taxonomy (3.2); 4 cr. An introductory study of identification, naming and classification as well as the history of systematics and the role of evolution in systematics. Laboratory emphasis is on knowledge of the major families of vascular plants and on the collection and identification of local vascular plants. Of particular importance is gaining an understanding of the philosophical bases in taxonomy and the relevance of this field to other areas of biology. *Prerequisite:* BIO 212.

BIO 412 Plant Propagation (3.2); 4 cr. Principles, practices and techniques in sexual and asexual propagation of horticultural plants, in which seed technology, and seed propagation, rooting and propagation by cutting, grafting and budding systems, layering and propagation by specialized plant structures, biotechnology and tissue culture systems for micropropagation are discussed. *Prerequisites:* BIO 212.

BIO 413 Plant Tissue Culture and Biotechnology (3.2); 4 cr. Principles and techniques for the in vitro culture, propagation, and genetic manipulation of plant cells. *Prerequisites:* BIO 212.

BIO 414 Ornamental Plant Materials (3.0); 3 cr. Identification and description of ornamental plants suitable for Lebanon; discussion of cultural and aesthetic aspects of plants of value in ornamental plantings.

BIO 420 Neurobiology and Behavior (3.0); 3 cr. The course aims at highlighting the basic neural mechanisms which underlie all animal behavior, including the high cognitive processes such as learning and memory. The different types of neural circuits and nerve cell cross-talks in both invertebrates and vertebrates are considered. *Prerequisite:* BIO 212.

BIO 424 Conservation Biology (3.0); 3 cr. The application of biological principles to issues in the conservation biology will be examined within a context that integrates biology, land management, protection and development. *Prerequisite:* BIO 314. Also listed as ENS 424.

BIO 451 Environmental Biotechnology (3.0); 3 cr. The use of biotechnology as it relates to various environmental technologies: biodegradation, remediation, biodegradable materials, energy saving process and chemical production from renewable resources. *Prerequisites:* BIO 211, BIO 212. Also listed as ENS 451.

BIO 460 Selected Topics in Biology (3.0); 3 cr. Students study recent and current biological issues and topics. *Prerequisites:* Specified when offered.

BIO 485 Seminar; 1 cr. Students work on selected papers from recent biological journals. Under the supervision of an advisor. *Prerequisite:* Senior Standing.

BIO 495 Research in Biology; 1, 2 or 3 cr. An independent research project in an area of biology under the direction of a faculty mentor. *Prerequisite:* Senior standing and consent of the instructor.

The Degree of Bachelor of Science in Chemistry

The chemistry program is designed to provide students with a broad and up-to-date education in rapidly growing areas. The program seeks to prepare students for excellence in graduate schools and employments in research institutes, industries, government and teaching. The program allows students to pursue the industrial, pharmaceutical or environmental chemistry tracks.

The Industrial Chemistry program aims at providing students with a background in chemical processes used in industry, including the large-scale production of major commercial products used in society. Industrial chemists are involved in the process of design, production and analysis of a wide variety of chemicals. Career options include quality control, supervision, process evaluation, pilot scale operations, management and sales.

The Pharmaceutical Chemistry program covers the discovery, development, identification and interpretation of the mode of action of biologically active compounds. Career options in pharmaceutical industries include drug discovery and synthesis, analysis of drug quality and research on the scale-up of new drugs.

The Environmental Chemistry program enables students to acquire the scientific and technical skills to reveal and evaluate environmental concerns related to industrial pollution and to propose potential solutions. Career options include environmental education, environmental consulting, water, soil and air quality control and monitoring, pollution prevention and environmental toxicology.

Admission Requirements

For admission requirements to the degree of BS in Chemistry, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Chemistry, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 98 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (98 credits)

Option 1: Concentration - General Chemistry

General Education Requirements

27 cr.

a) Communications Skills

6 cr.

ENL 213, ENL 230

b) Computer Skills

3 cr.

CSC 201

c) Cultural Studies

9 cr.

ARB 211 or ARB 231

REG 212 or REG 213

One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PDP 201.

d) Social Science Studies

3 cr.

One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201,

POS 201,¹ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201.

e) Basic Science Studies

6 cr.

Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements

28 cr.

CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, MAT 213, MAT 224, MAT 235, PHS 212, PHS 271

Major Requirements

37 cr.

CHM 321, CHM 322, CHM 326, CHM 327, CHM 331, CHM 335, CHM 372, CHM 440, CHM 490

Choose three Chemistry courses, 3 credits each. These courses should be at the 300 level and above.

Free Electives

6 cr.

Option 2: Concentration - Industrial Chemistry

General Education Requirements

27 cr.

a) Communications Skills

6 cr.

ENL 213, ENL 230

b) Computer Skills

3 cr.

CSC 201

c) Cultural Studies

9 cr.

ARB 211 or ARB 231

REG 212 or REG 213

One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201.

d) Social Science Studies

3 cr.

One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ²ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201

e) Basic Science Studies

6 cr.

Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements

28 cr.

CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, MAT 213, MAT 224, MAT 235, PHS 212, PHS 271

Major Requirements

37 cr.

CHM 321, CHM 322, CHM 326, CHM 327, CHM 331, CHM 335, CHM 372, CHM 420, CHM 421, CHM 440, CHM 490

Choose one 3 credits Chemistry course, 300 level and above.

Free Electives

6 cr.

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

² Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

| | |
|---|-------------------|
| Option 3: Concentration - Pharmaceutical Chemistry | |
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 | |
| REG 212 or REG 213 | |
| One course from the following:PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: | |
| HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| Students majoring in Pharmaceutical Chemistry are encouraged to take MRK 201 or BAD 201. | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following:ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |
| Core Requirements | 28 cr. |
| MAT 213, MAT 224, MAT 235, PHS 212, PHS 271, CHM 211, CHM 215, CHM 221, CHM 222, CHM 272 | |
| Major Requirements | 37 cr. |
| CHM 321, CHM 322, CHM 326, CHM 327, CHM 331, CHM 335, CHM 372, CHM 425, CHM 427, CHM 428, CHM 440, CHM 490. | |
| Free Electives | 6 cr. |
| Option 4: Concentration – Environmental Chemistry | |
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 | |
| REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ² ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

² Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Core Requirements**28 cr.**

CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, MAT 213, MAT 224, MAT 235, PHS 212, PHS 271.

Major Requirements**37 cr.**

CHM 321, CHM 322, CHM 326, CHM 327, CHM 331, CHM 335, CHM 372, CHM 415, CHM 416, CHM 440, CHM 490

Choose one 3 credits Chemistry course, 300 level and above.

Free Electives**6 cr.**

Students majoring in Environmental Chemistry are encouraged to choose one of the following two 3 credits courses BIO 204 or GEO 201.

**Bachelor of Science in Chemistry
Suggested Program (98 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| CHM | 211 | Principles of Chemistry | 3 cr. |
| MAT | 213 | Calculus III | 3 cr. |
| CSC | 201 | Computers and Their User (GER) | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (17 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| CHM | 215 | Quantitative Analysis | 4 cr. |
| CHM | 221 | Organic Chemistry I | 3 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| PHS | 212 | Electricity & Magnetism | 3 cr. |
| PHS | 271 | Electricity & Magnetism Lab | 1 cr. |
| — | — | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (17 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| CHM | 222 | Organic Chemistry II | 3 cr. |
| CHM | 321 | Physical Chemistry I | 3 cr. |
| CHM | 272 | Organic Chemistry II Laboratory | 2 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (14 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| CHM | 322 | Physical Chemistry II | 4 cr. |
| CHM | 325 | Inorganic Chemistry | 4 cr. |
| CHM | 331 | Organic Identification and Structure | 3 cr. |
| CHM | 335 | Biological Chemistry | 3 cr. |

Option 1: Concentration - General Chemistry

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CHM | 327 | Inorganic Chemistry II | 3 cr. |
| CHM | 372 | Advanced Synthesis Laboratory | 2 cr. |
| CHM | 440 | Instrumental Analysis | 4 cr. |
| CHM | — | CHM Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|-------------------|-------|
| CHM | 490 | Chemistry Project | 2 cr. |
| CHM | — | CHM Elective | 3 cr. |
| CHM | — | CHM Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Option 2: Concentration - Industrial Chemistry

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CHM | 327 | Inorganic Chemistry II | 3 cr. |
| CHM | 372 | Advanced Synthesis Laboratory | 2 cr. |
| CHM | 440 | Instrumental Analysis | 4 cr. |
| CHM | 420 | Industrial Chemistry: Unit Operations | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|--|-------|
| CHM | 421 | Industrial Chemistry: Chemical Processes | 3 cr. |
| CHM | 490 | Chemistry Project | 2 cr. |
| CHM | — | CHM Elective | 3 cr. |

| | | | |
|---|---|---------------|-------|
| — | — | Free Elective | 3 cr |
| — | — | GER | 3 cr. |

Option 3: Concentration - Pharmaceutical Chemistry

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CHM | 327 | Inorganic Chemistry II | 3 cr. |
| CHM | 372 | Advanced Synthesis Laboratory | 2 cr. |
| CHM | 440 | Instrumental Analysis | 4 cr. |
| CHM | 425 | Modern Methods of Organic Synthesis | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| CHM | 427 | Pharmaceutical Chemistry | 3 cr. |
| CHM | 428 | Drug Design and Action | 3 cr. |
| CHM | 490 | Chemistry Project | 2 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Option 4: Concentration - Environmental Chemistry

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| CHM | 327 | Inorganic Chemistry II | 3 cr. |
| CHM | 372 | Advanced Synthesis Laboratory | 2 cr. |
| CHM | 440 | Instrumental Analysis | 4 cr. |
| CHM | 415 | Environmental Chemistry I | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| CHM | 416 | Environmental Chemistry II | 3 cr. |
| CHM | 490 | Chemistry Project | 2 cr. |
| CHM | — | CHM Elective | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr |

Undergraduate Courses: Chemistry

CHM 101 General Chemistry I (3.0); 3 cr. An introductory course about the atomic theory, chemical bonding and periodicity, stoichiometry; the state of matter, gases and solutions.

CHM 102 General Chemistry II (3.0); 3 cr. Cover chemical equilibrium, acids and bases, electrochemistry, an overview of the groups in the periodic table, and an introduction to organic chemistry and nuclear chemistry. *Prerequisite:* CHM 101.

CHM 103 Introductory Chemistry (3.0); 3 cr. Improves the students knowledge of the fundamental concepts in chemistry. The course brings about sharpening judgements on chemical questions and enhancing problem solving skills. The materials covered deal with stoichiometry, atomic structure, chemical periodicity and bonding, gases, thermochemistry, solutions, and chemical equilibria.

CHM 171 General Chemistry I Laboratory (0.3); 1 cr. Selected experiments in general chemistry I. *Corequisite:* CHM 101.

CHM 172 General Chemistry II Laboratory (0.3); 1 cr. Selected experiments in general chemistry II. *Corequisite:* CHM 102.

CHM 211 Principles of Chemistry (3.0); 3 cr. Deals with stoichiometry, gases, atomic structure, bonding, liquids, gaseous and solution equilibria, thermochemistry, thermodynamics, properties of solution. The course is designed for sciences and engineering students.

CHM 213 Basic Organic Chemistry (3.0) 3 cr. This course provides a brief overview to basic principles in Organic Chemistry including the nomenclature, structure, synthesis and reaction of the main function groups of organic compounds. *Corequisite:* CHM 211.

CHM 215 Quantitative Analysis (3.3); 4 cr. This course deals with the theoretical and practical aspects of chemical analysis. It covers the principles of chemical equilibrium and its application on gravimetric and titrimetric methods of analysis in addition to the fundamental principles of spectrometry. Statistical evaluation of the accuracy and precision of experimental data is discussed. *Prerequisite:* CHM 211.

CHM 221 Organic Chemistry I (3.0); 3 cr. Introduction to the basic principles and concepts of organic chemistry with an emphasis on the relation between structure and properties, chemistry of hydrocarbons and stereochemistry. *Prerequisite:* CHM 211.

CHM 222 Organic Chemistry II (3.0); 3 cr. A study of substitution and elimination reactions and of the chemistry of aromatic compounds, alcohols, ethers, epoxides, aldehydes and ketones, carboxylic acids and derivatives, amines and carbohydrates. *Prerequisite:* CHM 221.

CHM 271 Principles of Chemistry Laboratory (0.2); 1 cr. Introduction to laboratory techniques, selected experiments in chemical analysis. *Corequisite:* CHM 211.

CHM 272 Organic Chemistry Laboratory (1.2); 2 cr. The aim of this course is to familiarize students with the main techniques encountered in organic chemistry lab such as extraction, recrystallization, simple and fractional distillation, thin layer and column chromatography, identification of functional groups, conduct chemical reactions. Emphasis is placed on the theory of these techniques. *Corequisite:* CHM 222.

CHM 273 Organic Chemistry Laboratory (0.2); 1 cr. This course is designed for nutrition students and introduces the methods of separation and purification including extraction, recrystallization, simple and fractional distillation and thin layer chromatography. Identification of functional groups and chemical reactions will be also included. *Corequisite:* CHM 213.

CHM 321 Physical Chemistry I (3.0); 3 cr. This course covers fundamental principles of chemical dynamics and chemical thermodynamics. A theoretical study of the macroscopic behavior and microscopic structure of matter using mathematical models; kinetic theory of gases, rate laws, mechanism, collision theory, activated complex theory; the three laws of thermodynamics and their application to chemical systems; thermodynamics of chemical reactions, thermodynamics of solutions, thermodynamics of phase transformation, chemical equilibrium. *Prerequisite:* CHM 211, *Corequisite:* MAT 235.

CHM 322 Physical chemistry II (3.3); 4 cr. This course deals with Quantum Chemistry and Spectroscopy. Topics covered are Quantum theory, postulates, Schrodinger equation, harmonic oscillator model, hydrogen atom, hydrogenic wave function, Pauli principle, rotational motion, atomic structure, molecular electronic structure, Huckel approximation, hybridization, symmetry, rotational and vibration spectroscopy, electronic spectroscopy of molecules. *Prerequisite:* CHM 321.

CHM 325 Inorganic Chemistry (3.3); 4 cr. Covers electronic structure and properties of atoms; structure and bonding of inorganic substances, the unit cell, VSEPR theory, bond energies; periodicity and correlation with the electronic structure, properties of the main-group elements and the d-transition metals; organometallic complexes and their applications in synthesis and catalysis. *Prerequisite:* CHM 211.

CHM 326 Inorganic Chemistry I (3.3); 4 cr. Covers atomic structure, chemical bonding (MOT), molecular geometry (VSEPR model), solid state (metals, ionic, covalent molecules), crystal field theory, symmetry and point group, acid-base concepts, e.m.f. diagram and its uses, chemistry of selected main group and transition elements with emphasis on physical properties and their applications in industrial chemistry. *Prerequisite:* CHM 211.

CHM 327 Inorganic Chemistry II (3.0); 3cr. Includes structures, stereochemistry, reaction mechanisms and physical properties with emphasis on transition metal coordination and sigma and pi bonded organometallic compounds and their role in catalysis. Metals in biological system will be covered. *Prerequisite:* CHM 326.

CHM 331 Organic Identification and Structure (1.4); 3cr. This course studies the theoretical and practical aspects of the separation, purification and identification of organic compounds. The identification of pure compounds and of components of mixtures of organic compounds is accomplished by chemical and spectral methods and/or synthesis of derivatives. It covers the theory of NMR (including two-dimensional proton), infrared and mass spectrometry with emphasis on spectral interpretation skills needed for the elucidation of structure. *Prerequisite:* CHM 222, CHM 272.

CHM 335 Biological Chemistry (3.0); 3cr. Topics covered include structures and functions

of important biomolecules, methods of structure determination, kinetics of enzyme-catalyzed reactions and enzyme mechanisms. *Prerequisite:* CHM 222

CHM 372 Advanced Synthesis Laboratory (0.4); 2cr. Advanced laboratory methods for the preparation of organic and inorganic molecules; synthetic techniques, purification techniques and multi-step syntheses with the characterization of intermediates and products by IR, NMR and MS. *Prerequisite:* CHM 325, CHM 331

CHM 410 Physical Chemistry III (3.0); 3cr. A course that deals with a variety of areas in advanced dynamics, thermodynamics, technical physical analysis, transport properties: diffusion, viscosity, ion transport, thermal conductivity, rates of reactions, statistical mechanics, catalysis, thermodynamics of mixtures, equilibrium thermochemistry, electrochemical potential, complex reaction mechanism, fundamental spectroscopic techniques: NMR, laser spectroscopy, EPR, surface analysis, and imaging techniques, X-ray crystallography. *Prerequisite:* CHM 322.

CHM 415 Environmental Chemistry I (3.0); 3cr. Covers the natural chemical processes on Earth and the anthropogenic effects on the environment. The chemical processes occurring in the lithosphere, hydrosphere, and atmosphere are analyzed. The effects of primary and secondary pollutants, their interactions between each other and natural substances, and their propagation in the environment are covered. *Prerequisite:* Senior Standing.

CHM 416 Environmental Chemistry II (3.0); 3cr. Covers special chemistry topics relevant to environmental protection and environmental systems such as water, air, and soil. Selected topics include: polluted sites decontamination, wastewater and oil spill treatment, hazardous waste management, chemical sources of renewable energy, and an overview of Green Chemistry. *Prerequisite:* Senior Standing

CHM 420 Industrial Chemistry: Unit Operations (3.0); 3cr. This course covers the study of unit operations: distillation, liquid-liquid extraction, gas-liquid extraction, gas absorption, filtration, evaporation, centrifugation, drying and leaching operations. The fundamentals of material balances will be introduced. *Prerequisite:* Senior Standing

CHM 421 Industrial Chemistry: Chemical Processes (3.0); 3cr. This course provides a

broad overview of technologies and processes involved in chemical industry. Topics covered: industrial production of organic and inorganic chemicals, fermentation processes, Petroleum refining, Polymer processing, industrial catalysis, product development from bench to pilot plant to full-scale manufacturing, process economics and environmental considerations. *Prerequisite:* CHM 222, CHM 326

CHM 425 Modern Methods of Organic Synthesis (3.0); 3cr. The course presents the most important reaction types as tools for research scientist to use in synthesis. Topics include formation of carbon-carbon bonds, molecular rearrangement, cycloaddition and pericyclic reactions, photochemical and free radical reactions, oxidation and reduction reactions with emphasis on chemo-, regio- and stereoselectivity. General principles of retrosynthetic analysis will be used to design simple synthetic schemes for synthesis of target molecules, including important natural products. *Prerequisite:* CHM 222

CHM 427 Pharmaceutical Chemistry (3.0); 3cr. It explores in depth the synthesis of pharmaceutically important molecules such as antibiotics, cardiovascular, anti-inflammatory, chemotherapeutic agents and more. Special attention is placed on the strategy and tactics in synthesis and reaction mechanisms. Real case studies of process development of drug substances in pharmaceutical industry will be illustrated to show the problems which may be encountered in scaling up chemical synthesis and the ways these problems may be overcome. *Prerequisite:* CHM 425.

CHM 428 Drug Design and Action (3.0); 3cr. This course will give an overview of how drugs are designed and function to help synthetic chemists improve their understanding of drug chemistry. It covers stages of drug discovery process, drug-target interactions, pharmacological properties in drug design, elucidation of mechanism of action of drugs, description of routes for the delivery of drugs in the human body, chemical aspects of drug metabolism and the concept of pro-drugs. *Prerequisite:* CHM 222 and CHM 335 or BIO 227.

CHM 430 Polymer Chemistry (3.3); 4cr. Covers structure, characterization, synthesis and classification of polymers; mechanical properties; stability; and applications in

packaging, insulators and fibers etc. *Prerequisites:* CHM 222, CHM 322.

CHM 431 Atmospheric Chemistry & Pollution (3.0); 3 cr. Covers the chemical composition of the earth's atmosphere and the major factors that control its chemical composition. Emphasizes the effects of the biosphere and the changes induced by human activities. Topics such as climate change, ozone depletion, urban air pollution and acid rain will be developed. *Prerequisite:* CHM 322.

CHM 432 Chemistry & Processing of Food (3.0); 3 cr. Provides an overview of the chemical and physical properties of food components and additives. Covers the processing operations of important food classes (beverages, fruits and vegetables, dairy products); major chemical changes taking place during processing and storage of foods; and principal methods of analysis used in the food industry. *Prerequisite:* CHM 222.

CHM 433 Soil Chemistry & Pollution (3.3); 4 cr. Covers chemistry of inorganic and organic soil components with emphasis on environmental significance of soil solution-solid phase equilibrium, sorption phenomena, ion exchange processes, reaction kinetics, redox reactions, and acidity and salinity processes. Also covers soil pollution: sources, dispersion, and remediation methods. *Prerequisites:* CHM 215, CHM 222, BIO 211.

CHM 434 Materials Chemistry (3.3); 3 cr. This course gives an introduction to materials chemistry and solid state chemistry together with an overview of common synthesis and characterization of materials with emphasis on molecular understanding of their chemical, electrical, optical, mechanical, thermal and magnetic properties. Topics covered include inorganic solids, polymers, nanoscale materials and biological materials with their potential technological applications. *Prerequisite:* CHM 222, CHM 322, CHM 325

CHM 435 Aquatic Chemistry & Pollution (3.3); 4 cr. Covers chemical, biological and toxicological properties of water and their effects on the biosphere. Substances that alter the natural water. Sources, reactions, transports and fates of organic, inorganic, and pathogenic pollutants in water. Analytical testing methods used to assess the toxicity impact of pollutants, and pollution remediation techniques. *Prerequisites:* CHM 215, CHM 222, BIO 211.

CHM 440 Instrumental Analysis (3.3); 4 cr. Covers theory, practice and applications of modern analytical instrumentation: different aspects of instrumental analysis in areas of separation sciences and spectroscopy. Introduces instrumental methods of analysis, including gas and liquid chromatography; atomic, ultraviolet/visible, infrared, and fluorescence spectroscopy; nuclear techniques; and electrochemical methods. The use and the

interpretation of data from these instruments will be practiced in the laboratory. *Prerequisite:* CHM 215.

CHM 490 Chemistry Project; 1, 2 or 3 cr. Upon the consent of an advisor the student carries out a research project, gaining deeper skills in problem-solving, performing a literature review, experimental techniques, designing experiments, analyzing data and preparing a final report. *Prerequisite:* Senior standing.

The Degree of Bachelor of Science in Environmental Science

The recent environmental challenges on the local, regional and global levels are making environmental issues a major concern in our professional and social lives. Exponential population growth, industrialization and the tapping of energy resources are polluting our environments and depleting our resources. Environmental Science provides an understanding of ecological systems, of environmental components like air, water and soil, and of pollution sources and environmental degradation. Environmental scientists are equally prepared for problem solving, pollution prevention, environmental protection and conservation of natural resources.

Holders of a BS degree in environmental science will be ideally suited for careers in:

- *Public agencies:* Ministries of environment, water resources, electricity, oil and urban planning.
- *Industry:* Emission and waste monitoring, pollution clean-up.
- *Engineering:* Environmental impact assessment, remediation techniques.
- *Environmental and health agencies:* Performing laboratory analysis.
- *Teaching and research.*

Admission Requirements

For admission requirements to the degree of BS in environmental science, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in environmental science, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 104 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (104 Credits)

| | |
|--|---------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 | |
| REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| d) Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| e) Basic Science Studies | 6 cr. |
| Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201. | |

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Core Requirements**44 cr.**

BIO 211, BIO 212, CSC 318, CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, ENS 303, ENS 321, GEO 201, GEO 311, PHS 208, STA 203.

Major Requirements**27 cr.**

ENS 322, ENS 323, ENS 430, ENS 450, ENS 471, ENS 490
and also three freely chosen Environmental Science courses 3 credits each.

Free Electives**6 cr.**

**Bachelor of Science in Environmental Science
Suggested Program (104 Credits)**

Fall Semester I (16 Credits)

| | | | |
|-----|-----------|---|-------|
| ENS | 201 | Introduction to Environmental Science (GER) | 3 cr. |
| CHM | 211 | Principles of Chemistry | 3 cr. |
| BIO | 211 | General Biology I | 4 cr. |
| ARB | 211 / 231 | GER | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| GEO | 201 | Physical Geology | 3 cr. |
| CHM | 221 | Organic Chemistry I | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| BIO | 212 | General Biology II | 4 cr. |
| ENL | 230 | English in the Work Place (GER) | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----------|---------------|-------|
| REG | 212 / 213 | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester II (14 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| ENS | 303 | Ecology | 3 cr. |
| ENS | 321 | Soil Pollution | 3 cr. |
| CHM | 222 | Organic Chemistry II | 3 cr. |
| CHM | 272 | Organic Chemistry Laboratory | 2 cr. |
| PHS | 208 | Physics for Life Sciences I | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|-----------------------|-------|
| ENS | 322 | Water Pollution | 3 cr. |
| GEO | 311 | Hydrogeology | 3 cr. |
| CHM | 215 | Quantitative Analysis | 4 cr. |
| STA | 203 | Biostatistics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|------------------|-----|----------------------------------|-------|
| CSC | 318 | Geographical Information Systems | 3 cr. |
| ENS | 323 | Air Pollution | 3 cr. |
| ENS | 430 | Solid Waste Management | 3 cr. |
| ENS ¹ | — | | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|------------------|-----|----------------------------------|-------|
| ENS | 450 | Environmental Impact Assessments | 3 cr. |
| ENS | 471 | Field and Laboratory Work | 3 cr. |
| ENS | 490 | Seminar or Senior Project | 2 cr. |
| ENS ¹ | — | | 3 cr. |
| ENS ¹ | — | | 3 cr. |

¹ Choose an environmental science course, 3 credits.

Undergraduate Courses: Environmental Science

ENS 201 Introduction to Environmental Science (3.0); 3 cr. Introduction to the basic environmental global problems facing the Earth with emphasis on pollution and the use of energy resources. *Prerequisite:* Sophomore Standing.

ENS 202 The Environment and Sustainable Development (3.0); 3 cr. Introduction to sustainable development: concepts, goals, ecological, economic and social aspects. Fundamental environmental issues in sustainable development: natural resources management, population, food production, energy. International organizations and efforts. Standards and policies. Emerging technological applications and their impact. Resolution of environmental conflicts.

ENS 205 Environment, Society and Ethics (3.0); 3 cr. Population dynamics and community organization. World's economic unbalance and consequent impacts on human health and quality of life. International Politics and the environment. Environmental Law. Ethics and sustainability.

ENS 206 Ecotourism (3.0); 3 cr. Principles, characteristics and organization. Sustainability based on environmental protection, conservation and beneficial community and social interests. International experience, domestic ecotourism: description and geography. Field trips to the major nature reserves and sites of natural beauty in Lebanon.

ENS 303 Ecology (3.0); 3 cr. Principles of ecosystems; the interaction of organisms & their environment. Food web, energy flow & nutrient cycling in ecosystems. Factors which affect the distribution & abundance of species: Wildlife resources & extinction. *Prerequisite:* BIO 212. Also listed as BIO 314.

ENS 312 Environmental Health (3.0); 3 cr. Provides general understanding of how environmental factors are involved in the transmission of communicable diseases. Health hazards resulting from exposure to chemical and physical factors in the environment are emphasized as well.

ENS 321 Soil Pollution (3.0); 3 cr. Soil formation, soil chemistry. Soil erosion, weathering, salinity, soil rehabilitation. Soil contamination from environmental contaminants: Their fixation/ mobility.

Dispersion in the environment. Soil remediation methods.

ENS 322 Water Pollution (3.0); 3 cr. Natural water quality. Contaminant Hydrogeology: Chemical and physical contaminants. Marine Pollution. Problems arising from water treatment and resource use.

ENS 323 Air Pollution (3.0); 3 cr. Composition of the atmosphere. Climate and weather. Global atmospheric changes. Indoor and outdoor air pollution. Air pollution control processes, air pollutants dispersion modeling. *Prerequisite:* ENS 201.

ENS 332 Plants and Pollution (3.0); 3 cr. Biomes on Earth. Loss of biodiversity and desertification. Preventive measures. Forest resources and conservation. Interaction between plants and pollution, plant pollutant uptake and physiological responses. *Prerequisite:* BIO 212.

ENS 420 Energy Resources (3.0); 3 cr. Fossil fuels energy resources. Mineral resources. Alternative energy resources. Technological hazards and environmental impacts including political, economic and social consequences of their exploitation.

ENS 422 Pollution of Marine Environment, (3.0); 3 cr. Introduction to the marine ecosystems, sources and types of pollutants, environmental degradation and its impact. Marine pollution management. International legislation for the conservation of marine environment.

ENS 423 Water and Wastewater Quality and Treatment (3.0); 3 cr. Water and wastewater treatment processes. Consequent health impacts. Water and wastewater control techniques. Water protection.

ENS 424 Conservation Biology (3.0); 3 cr. The application of biological principles to issues in the conservation biology will be examined within a context that integrates biology, land management, protection and development. *Prerequisites:* ENS 203. Also listed as BIO 424.

ENS 425 Forest Resource Conservation (3.0); 3 cr. Ecological, social and economic principles applied in the management of forest and wildland resources, forests, range, water, fish and game. Evaluation of alternate management plans: introduction to integrative planning: The

interactions of water, wood, wildlife, range fisheries, and recreation resources. *Prerequisite:* BIO 212.

ENS 430 Solid Waste Management (3.0); 3 cr. Solid waste management and disposal. Treatment processes: Recycling, composting, landfilling. Introduction to hazardous/toxic waste.

ENS 431 Industrial Waste Management (3.0); 3 cr. Industrial waste: sources, types, quality, quantity and impact assessment. Treatment processes and detoxification. Disposal.

ENS 440 Environmental Natural Hazards (3.0); 3 cr. Seismic hazards; volcanoes; Atmospheric hazards; floods and Hydrologic hazards; landslides and rockfalls; design with nature; human interaction with the environment; risk maps; case studies.

ENS 441 Mitigation Measures and Policies (3.0); 3 cr. Rehabilitation concepts; mitigation procedures, design, and methodology; application to quarries, landfills, coastal erosion, landslides, floods.

ENS 445 Environmental Law & Regulations (2.0); 2 cr. Provides an overview of national and international environmental law and regulations, enforcement, and liability. Emphasizes practical working knowledge about the workings of environmental law, regulations, and the regulatory agencies. *Prerequisite:* Senior standing.

ENS 450 Environmental Impact Assessments (3.0); 3 cr. The assessment of a project environmental limitations, precautions,

mitigation, legal measures and the various methodologies of technical investigation, monitoring and assessment.

ENS 451 Environmental Biotechnology (3.0); 3 cr. The use of biotechnology as it relates to various environmental technologies: biodegradation, remediation, biodegradable materials, energy saving process and chemical production from renewable resources. *Prerequisites:* BIO 211, BIO 212. Also listed as BIO 451.

ENS 471 Field and Laboratory Work (1.2); 3 cr. Investigation of polluted sites and risk assessments. Environmental field work. Sampling methods. Laboratory analysis.

ENS 475 Selected Topics in Environmental Science (3.0); 3 cr. Students study recent and current environmental issues and topics. *Prerequisite:* Specified when offered.

ENS 485 Seminar; 2 cr. Students work on selected papers from recent biological, earth and environmental science journals. Under the supervision of an advisor. *Prerequisite:* Senior Standing.

ENS 490 Senior Project; 3 cr. After consultation with the Department, students run an environmental research project (case study) that will be presented as a seminar.

ENS 495 Research in Environmental Science; 1, 2 or 3 cr. An independent research project in an area of environmental science under the direction of a faculty mentor. *Prerequisite:* Senior standing and consent of the instructor.

The Degree of Bachelor of Science in Medical Laboratory Technology

Medical Laboratory Technology (MLT) is a clinically-oriented curriculum that combines academic and professional training. It is designed specifically to meet modern requirements for the profession of medical laboratory technology. MLT is an important contributor to the medical team involved in the diagnosis and treatment of diseases. Physicians rely heavily upon laboratory test results before making decisions. Thus, students will be trained to develop their ability to interpret generated laboratory results in order to provide reliable data for disease diagnosis. An MLT graduate may be employed as laboratory technician, researcher, assistant to a physician, or any other technical position in scientific, medical or pharmaceutical laboratories of hospitals and universities.

Admission Requirements

For admission requirements to the degree of BS in Medical Laboratory Technology, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Medical Laboratory Technology, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 103 credits (including clinical training), with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (103 Credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| Computer Skills | 3 cr. |
| CSC 201 | |
| Cultural Studies | 9 cr. |
| ARB 211 or ARB 231 and REG 212 or REG 213 | |
| One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201. | |
| Social Science Studies | 3 cr. |
| One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201 | |
| Basic Science Studies | 6 cr. |
| CHM 211 | |
| One course from the following: ENS 201, HEA 201, AST 201, NTR 201. | |
| Core Requirements | 21 cr. |
| BIO 211, BIO 215, BIO 227, CHM 215, CHM 213, CHM 273, STA 203. | |
| Major Requirements | 49 cr. |
| BIO 222, MLT 312, MLT 313, MLT 315, MLT 317, MLT 323, MLT 324, MLT 326, MLT 328, MLT 330, MLT 340, MLT 410, MLT 420, MLT 430, MLT 440, MLT 450, MLT 460, MLT 470. | |
| Free Electives | 6 cr. |

**Bachelor of Science in Medical Laboratory Technology
Suggested Program (103 Credits)**

Fall Semester I (16 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| BIO | 211 | General Biology I | 4 cr. |
| CHM | 211 | Principles of Chemistry | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|-------------------------------|-------|
| BIO | 215 | Introductory Human Physiology | 3 cr. |
| CHM | 215 | Quantitative Analysis | 4 cr. |
| CHM | 213 | Basic Organic Chemistry | 3 cr. |
| STA | 203 | Biostatistics | 3 cr. |
| BIO | 222 | Immunology | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-------|--------------------------------|-------|
| ARB | 211 / | GER | 3 cr. |
| | 231 | | |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| CHM | 273 | Organic Chemistry Laboratory | 1 cr. |
| MLT | 312 | Clinical Chemistry I | 3 cr. |
| MLT | 313 | Clinical Bacteriology I | 3 cr. |
| MLT | 315 | Clinical Parasitology I | 2 cr. |
| MLT | 317 | Clinical Pathology I | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (16 Credits)

| | | | |
|-----|-----|---|-------|
| BIO | 227 | Introductory Biochemistry | 3 cr. |
| MLT | 323 | Clinical Chemistry II | 3 cr. |
| MLT | 324 | Clinical Bacteriology II | 3 cr. |
| MLT | 326 | Clinical Parasitology II | 2 cr. |
| MLT | 328 | Clinical Pathology II | 3 cr. |
| MLT | 330 | Clinical Histopathology and Cytology Techniques | 2 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-------|---------------|-------|
| REG | 212 / | GER | 3 cr. |
| | 213 | | |
| — | — | Free Elective | 3 cr. |

Fall Semester III (14 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| MLT | 340 | Serology | 2 cr. |
| MLT | 410 | Training in Clinical Chemistry | 4 cr. |
| MLT | 420 | Training in Clinical Hematology | 4 cr. |
| MLT | 430 | Training in Clinical Bacteriology | 4 cr. |

Spring Semester III (14 Credits)

| | | | |
|-----|-----|--|-------|
| MLT | 440 | Training in Clinical Parasitology & Urinalysis | 2 cr. |
| MLT | 450 | Training in Serology | 2 cr. |
| MLT | 460 | Training in Blood Banking | 2 cr. |
| MLT | 470 | Training in Phlebotomy, Cytogenetics & Histological Techniques | 2 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Medical Laboratory Technology

MLT 311 Clinical Chemistry I (2.0); 2 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite:* CHM 211.

MLT 312 Clinical Chemistry I (3.0); 3 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite:* CHM 211.

MLT 313 Clinical Bacteriology I (3.0); 3 cr. Fundamental aspects of basic and clinical bacteriology. The course consists of lectures and demonstrations in general bacteriology. *Prerequisite:* BIO 211.

MLT 315 Clinical Parasitology I (2.0); 2 cr. An introductory course on the theory and laboratory techniques used in the diagnosis of parasitic infections of humans. *Prerequisite:* BIO 211.

MLT 317 Clinical Pathology I (3.0); 3 cr. The course consists of lectures and demonstrations in hematology, serology and blood banking.

MLT 322 Clinical Chemistry II (2.0); 2 cr. Continuation of MLT 311. *Prerequisite:* MLT 311.

MLT 323 Clinical Chemistry II (3.0); 3 cr. Continuation of MLT 312. *Prerequisite:* MLT 312.

MLT 324 Clinical Bacteriology II (2.2); 3 cr. Deals with practical experiments in clinical bacteriology which include preparation of smears and culture media, identification tests, for different types of bacteria encountered in clinical microbiology. *Prerequisite:* MLT 313.

MLT 326 Clinical Parasitology II (1.2); 2 cr. Continuation of MLT 315, deals with basic clinical parasitology. Lectures and demonstrations in laboratory techniques that are used in the diagnosis of parasitic infections of humans. *Prerequisite:* MLT 315.

MLT 328 Clinical Pathology II (3.0); 3 cr. Continuation of MLT 317.

MLT 330 Clinical Histopathology and Cytology Techniques (2.0); 2 cr. Series of lectures in cell biology and normal histology of various human tissues. Lectures on techniques of tissue handling, preparation and staining of specimens and smear of cytological material.

MLT 340 Serology (2.0); 2 cr. Basic aspects of clinical serology which involves the study of mechanisms, different formats, interfering factors, application and interpretation of commonly used serological tests.

MLT 401 Selected Topics in Laboratory Medicine I; 1 cr. Lectures on recent advances or special topics in the various disciplines of laboratory medicine.

MLT 402 Selected Topics in Laboratory Medicine II; 1 cr. Continuation of MLT 401.

MLT 410 Practical Training in Clinical Chemistry; 4 cr. 5-weeks practical training in clinical chemistry.

MLT 420 Practical Training in Clinical Hematology 4 cr. 5-weeks practical training in clinical hematology.

MLT 430 Practical Training in Clinical Bacteriology; 4 cr. 5-weeks practical training in clinical bacteriology.

MLT 440 Practical Training in Clinical Parasitology and Urinalysis; 2 cr. 4-weeks practical training in clinical parasitology and urinalysis.

MLT 450 Practical Training in Serology; 2 cr. 4-weeks practical training in serology.

MLT 460 Practical Training in Blood Banking; 2 cr. 4-weeks practical training in blood banking.

MLT 470 Practical Training in Phlebotomy, Cytogenetics & Histological Techniques; 2 cr. 4-weeks practical training in phlebotomy, cytogenetics & histological techniques.

The Degree of Bachelor of Science in Nutrition and Dietetics

Nutrition and Dietetics is an interdisciplinary field that focuses on the principles of human nutrition and foods. Nutrition is the study of food intake influence on health and well-being. It covers specific nutrients' requirements in the diet, their physiological functions in the body and the consequences of nutrients deficiency. It requires an understanding of the composition of food and factors that determine food choice and availability. The study of nutrition also explores the role of diet in the causation of diseases of multi-factorial origin, such as heart disease, diabetes and cancer. The importance of nutrition in preventing diseases has now become well recognized in both developing and developed countries. Dietetics is becoming increasingly important in health promotion and wellness of people throughout the life cycle, from infancy to old age, and in the care of people who are ill. Rapid advances in medicine increase the dietitian's role as a member of the health care team.

Various career opportunities are available to the nutritionist and registered dietitian. Clinical nutritionists and dietitians work closely with other health professionals in hospitals, nursing homes, out-patient clinics, public health agencies and food service/or food processing industries. Administrative dietitians direct the planning, purchasing, production and service of meals in medical centers, restaurants and schools. Holders of graduate degrees in nutrition and dietetics may teach in universities or do research in the field. Experienced registered dietitians may become consultants and go into private practice.

Admission Requirements

For admission requirements to the degree of BS in Nutrition or BS in Nutrition and Dietetics, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Nutrition and Dietetics a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 94 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying of graduation.

Dietetics Internship

Graduates wishing to qualify as professional dietitians must complete a dietetics internship by spending a minimum of six months in a hospital. Although it is the responsibility of the graduate to make all arrangements for the dietetics internship with a hospital, the University may provide orientation and assistance in identifying internship opportunities. The certificate or attestation that a graduate has completed the required training period will be granted by the hospital.

**Degree Requirements
(94 credits)**

| | |
|--|-------------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Computer Skills | 3 cr. |
| CSC 201 | |
| c) Cultural Studies | 9 cr. |
| One course of the following: PSL 201, BAD 201, EDU 201 | |
| Two courses, one from each of the following two sets: ARB 211 or ARB 231 REG 212 or REG 213 | |
| d) Social Science Studies | 3 cr. |
| One course of the following: SOL 201, ECN 200, MRK 201 | |
| e) Basic Science Studies | 6 cr. |
| NTR 210 | |
| One course from the following: ENS 201, ENS 202, ENS 206, HEA 201, AST 201. | |
| Core Requirements | 21 cr. |
| BIO 211, BIO 215, CHM 211, CHM 213, CHM 215, CHM 273, STA 203 | |
| Major Requirements | 40 cr. |
| NTR 227, NTR 313, NTR 320, NTR 321, NTR 325, NTR 330, NTR 425, NTR 430, NTR 435, NTR 440, NTR 445, NTR 450, NTR 460, NTR 495 | |
| Free Electives | 6 cr. |

Bachelor of Science in Nutrition and Dietetics
Suggested Program (94 Credits)

Fall Semester I (16 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| BIO | 211 | General Biology I | 4 cr. |
| CHM | 211 | Principles of Chemistry (GER) | 3 cr. |
| CHM | 213 | Basic Organic Chemistry | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| NTR | 210 | Human Nutrition (GER) | 3 cr. |

Spring Semester I (17Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| NTR | 227 | Nutritional Biochemistry | 3 cr. |
| BIO | 215 | Introductory Human Physiology | 3 cr. |
| CHM | 215 | Quantitative Analysis | 4 cr. |
| CHM | 273 | Organic Chemistry Lab. | 1 cr. |
| ENL | 230 | English in the Work Place (GER) | 3 cr. |
| PSL | 201 | Introduction to Psychology (GER) | 3 cr. |

Fall Semester II (16 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| CSC | 201 | Computers and their Use (GER) | 3 cr. |
| BAD | 201 | Fundamentals of Management | 3 cr. |
| NTR | 320 | Food Chemistry | 2 cr. |
| NTR | 325 | Food Analysis | 2 cr. |
| NTR | 430 | Advanced Human Nutrition | 3 cr. |
| SOL | 201 | Introduction to Sociology (GER) | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----------|-----------------------------|-------|
| NTR | 313 | Foodservice Management | 3 cr. |
| NTR | 330 | Community Nutrition | 3 cr. |
| NTR | 435 | Nutrition in the Life Cycle | 3 cr. |
| STA | 203 | Biostatistics | 3 cr. |
| ARB | 211 / 231 | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| NTR | 425 | Food Processing | 3 cr. |
| NTR | 440 | Therapeutic Nutrition | 4 cr. |
| NTR | 445 | Introduction to Dietetics Profession | 2 cr. |
| NTR | 495 | Project in Nutrition | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|----------|---|-------|
| NTR | 321 | Food Microbiology | 4 cr. |
| NTR | 450 | Dietetics: Counseling and Communication | 3 cr. |
| NTR | 460 | Therapeutic Nutrition Practicum | 2 cr. |
| REG | 212/ 213 | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Nutrition and Dietetics

NTR 201 Basic Human Nutrition (3.0); 3 cr.

An introduction to the study of carbohydrates, fats, proteins, vitamins and minerals and their effects on health. An overview of the processes of digestion, absorption and their metabolism. *Prerequisite:* Sophomore Standing and ENL 105.

NTR 210 Human Nutrition (3.0); 3 cr. Study of macro- and micro-nutrients and their roles in the body, as well as the nutritional needs of an individual throughout the lifespan.

NTR 212 Food Sanitation and Safety (3.0); 3 cr. Food microbiology and food hygiene; causes of food poisoning and food-borne infections; prevention and safety. *Prerequisite:* NTR 201 or NTR 210.

NTR 215 Foods and Nutrition of World Cultures (3.0); 3 cr. The focus of the course is to enhance the student's basic understanding of the cultural factors, which influence food intake and nutritional status. Food and diet patterns of various culture groups will be explored through lecture, food preparation, food sampling, and guest speakers.

NTR 227 Nutritional Biochemistry (3.0); 3 cr. General biochemistry, with emphasis on the biochemical functions of nutrients and their metabolism. *Prerequisite:* BIO 211, and NTR 210, *Corequisite:* CHM 213.

NTR 313 Foodservice Management (3.0); 3 cr. The course focuses on planning and service of safe, nutritionally balanced meals within budgetary margins as well as technical operations in a foodservice system. It includes regulations and standards, and the basics of total quality management in health care and other institutions. *Prerequisite:* NTR 210 and BAD 201.

NTR 320 Food Chemistry (2.0); 2 cr. Covers chemical composition, physical and sensory properties of foods. Focuses on the structural considerations of food components (water in foods, lipids, carbohydrates & proteins), chemicals in foods, browning reactions and flavor of foods. *Prerequisite:* NTR 227.

NTR 321 Food Microbiology (3.2); 4 cr. A study of microorganisms with emphasis on food spoilage, food poisoning, and the control of pathogenic microorganisms in food. *Prerequisite:* BIO 211.

NTR 325 Food Analysis (1.2); 2 cr. Introduces the laboratory methods for chemical analysis of nutrients and chemicals in food products. *Prerequisite:* CHM 215. *Corequisite:* NTR 320.

NTR 330 Community Nutrition (3.0); 3 cr. Focuses on community nutrition education programs in schools, health centers, government institutions, and mass media. Emphasis on current research in assessing community nutrition program needs as well as program implementation. *Prerequisite:* NTR 210.

NTR 335 Sports Nutrition (3.0); 3 cr. In-depth coverage of both nutrition and exercise physiology while delivering practical, applied information useful to provide dietary and training guidelines for different kinds of sports. *Prerequisite:* NTR 201 or NTR 210.

NTR 425 Food Processing (2.2); 3 cr. Covers the changes in basic constituents of foods (carbohydrates, lipids, proteins, vitamins, minerals, food enzymes, and water) resulting from processing and preparation. Focuses on the principles of food spoilage and food preservation, and the different laboratory methods of food processing. *Prerequisite:* NTR 320.

NTR 430 Advanced Human Nutrition (3.0); 3 cr. Covers human physiological needs for energy requirements; body needs from food groups such as carbohydrates, proteins and fats; control of nutrient metabolism; and methods of the nutritional assessment. *Prerequisite:* NTR 227 and BIO 215.

NTR 435 Nutrition in the Life Cycle (3.0); 3 cr. Covers the basic nutritional needs of people throughout their life cycle (infancy, childhood, adolescence, adulthood and elderly people) and the special nutritional requirements during pregnancy and lactation. *Prerequisite:* NTR 430

NTR 440 Therapeutic Nutrition (3.2); 4 cr. Covers the nutritional needs of individuals throughout their life cycle and in various diseases. Provides the students with an understanding of how nutritional status is assessed in relation to health and disease at the individual and community levels by covering case studies reports and study modules. *Prerequisite:* NTR 430.

NTR 445 Introduction to Dietetics Profession (2.0); 2 cr. Reviews basic skills needed by the dietician including nutritional care, ethics, role and responsibilities in various employment settings. *Prerequisite:* Senior standing.

NTR 450 Dietetics Counseling and Communication (3.0); 3 cr. Application of the principles of dietetics in a hospital setting. Focuses on the techniques in collection and interpretation of dietary intake. Emphasis on the team concept of patient care and strategies for promoting change in nutritional education. *Corequisite:* NTR 445.

NTR 451 Advanced Nutrition I (3.0); 3 cr. Covers carbohydrates, proteins, lipids, fiber and other nutrients, and examines their body metabolism. *Prerequisite:* Senior standing and NTR 430.

NTR 452 Advanced Nutrition II (3.0); 3 cr. Covers the nutritional, biochemical and physiological aspects of vitamins and minerals in human body. *Prerequisite:* NTR 451.

NTR 455 Diet Therapy in Inborn Errors of Metabolism (3.0); 3 cr. The course deals with congenital defects that require special diet manipulations and possible nutrition support. *Prerequisite:* NTR 440.

NTR 460 Therapeutic Nutrition Practicum (1.3); 2 cr. Case study evaluation of selected topics in advanced therapeutic nutrition and related current pertinent research. *Corequisite:* NTR 440.

NTR 495 Project in Nutrition; 3 cr. Emphasizes current research in nutrition and dietetics. *Prerequisite:* Senior standing and consent of instructor.

The Degree of Bachelor of Science in Physics

Physics is the discovery of the inner fundamental unity of the natural world, from the whole universe to the insides of the smallest nucleus. It is the science that studies the basic laws of nature that produce the wealth of phenomena observed in everyday life.

Holders of a BS in physics can pursue a career in teaching or follow graduate studies. Other options include, among others, working in hospitals as medical physicists or in industry for running quality control labs or devising numerical simulations.

Admission Requirements

For admission requirements to the degree of BS in physics, refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in physics, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 95 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (95 credits)

General Education Requirements 27 cr.

a) Communications Skills 6 cr.

ENL 213, ENL 230

b) Computer Skills 3 cr.

CSC 201

c) Cultural Studies 9 cr.

ARB 211 or ARB 231, REG 212 or REG 213

One course from the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 214, PDP 201.

d) Social Science Studies 3 cr.

One course from the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ¹ECN 200, ECN 211, ECN 212, MRK 201, TTM 201, BAD 201

e) Basic Science Studies 6 cr.

Two distinct courses from the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements 29 cr.

MAT 213, MAT 215, MAT 224, MAT 235, PHS 206, PHS 212, PHS 213, PHS 275, PHS 276, EEN 205, CSC 212.

Major Requirements 33 cr.

PHS301, PHS 303, PHS 351 (or MAT 335), PHS 373, PHS 374, PHS 415, PHS 417, PHS 435, PHS 497, AST 210

Two courses of the following (headings are suggestions):

Astrophysics courses: AST 320, 321, 370 (Students opting for two of these courses are encouraged to take the third as a free elective)

Hydrodynamics courses: MEN 320, MEN 321 (Students opting for these two

¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

course are encouraged to take MEN 550 (Computational Methods in Thermal and Fluid Mechanics) as a free elective).

Semiconductors courses: EEN 206, PHS 405 (Students opting for these two courses will be encouraged to take EEN 416 (Semiconductor devices) as a free elective)

Nuclear & Particle Physics courses: PHS 315, PHS 403

Other: PHS 460

Free Electives

6 cr.

**Bachelor of Science in Physics
Suggested Program (95 Credits)**

Fall Semester I (16 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| MAT | 213 | Calculus III | 3 cr. |
| MAT | 215 | Linear Algebra I | 3 cr. |
| PHS | 206 | Thermodynamics and Waves | 3 cr. |
| PHS | 275 | Experimental Physics I | 1 cr. |
| CSC | 201 | Computers and Their Use (GER) | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |

Spring Semester I (16 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| PHS | 212 | Electricity and Magnetism | 3 cr. |
| PHS | 213 | Modern Physics | 3 cr. |
| PHS | 276 | Experimental Physics II | 1 cr. |
| MAT | 224 | Calculus IV | 3 cr. |
| MAT | 235 | Ordinary Differential Equations | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |

Fall Semester II (16 Credits)

| | | | |
|-----|-----|---|-------|
| PHS | 303 | Analytical Mechanics | 3 cr. |
| PHS | 373 | Experimental Physics III | 1 cr. |
| PHS | 351 | Mathematical Methods for Physics I (or MAT 335) | 3 cr. |
| CSC | 212 | Program Design & Data Abstraction I | 3 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (17 Credits)

| | | | |
|-----|-----|--|-------|
| AST | 210 | Introduction to Astronomy & Astrophysics | 3 cr. |
| EEN | 205 | Circuits | 3 cr. |
| PHS | 374 | Experimental Physics IV | 1 cr. |
| PHS | 435 | Quantum Mechanics | 4 cr. |
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| PHS | 301 | Optics | 3 cr. |
| PHS | 415 | Thermal and Statistical Physics | 3 cr. |
| PHS | — | Physics Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|------------------------|-------|
| PHS | 417 | Electromagnetic Theory | 3 cr. |
| PHS | 497 | Senior Project | 3 cr. |
| PHS | — | Physics Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Undergraduate Courses: Physics

PHS 101 General Physics I (3.0); 3 cr. A basic course covering: vectors, Newton's laws of motion, particle kinematics and dynamics, work, energy, linear and angular momentum, rotational motion, rigid body, equilibrium and Statistics. *Prerequisite:* Freshman Standing.

PHS 102 General Physics II (3.0); 3 cr. A basic course covering electric fields and electrical potential; DC-circuits; magnetic fields; capacitance and inductance; AC-circuits and electromagnetic waves. *Prerequisite:* Freshman Standing.

PHS 171 General Physics I Laboratory (0.3); 1 cr. Laboratory course illustrating the principles and experiments taught in General Physics I. *Corequisite:* PHS 101.

PHS 172 General Physics II Laboratory (0.3); 1 cr. Laboratory course illustrating the principles and experiments taught in General Physics II. *Corequisite:* PHS 102.

PHS 203 General Physics III (3.0); 3 cr. A course covering waves and corpuscles, sound, acoustics, reflection and refraction of light; interference and diffraction; polarization, spectrometry, and laser optics. *Prerequisite:* Sophomore Standing.

PHS 204 Applied Mechanics (4.0); 4 cr. Newton's laws and applications. Conservation of energy and linear momentum, collision. Rotational kinematics and dynamics, angular momentum and its conservation. Equilibrium. Oscillations. Universal gravitation. *Prerequisite:* Sophomore Standing.

PHS 205 Thermodynamics and Waves (4.0); 4 cr. An introduction to thermodynamics and the physics of waves: it covers concepts of temperature and heat, the laws of thermodynamics, heat engine and refrigerators, entropy; the kinetic theory of gases. Added to these, it covers the basic concepts of waves: harmonic waves, energy, superposition principle, reflection of waves, standing waves, with applications to mechanical waves (sound, surface waves...) and light. *Prerequisite:* Sophomore standing.

PHS 206 Heat, Vibration and Waves (3.0); 3cr. Introduction to thermodynamics: Kinetic Theory, Zeroth, First and Second Law of Thermodynamics. Vibrations: Simple Harmonic Motion, Damped and Forced Oscillators,

Coupled Oscillators and Normal modes, Damped and Forces Coupled Oscillators. Waves: Mechanical waves as a chain of coupled oscillators, harmonic waves, Fourier combination of waves. *Prerequisite:* Sophomore standing.

PHS 207 Development of Science and Technology (3.0); 3 cr. The principal periods in the development of the scientific thought. The contribution of individuals like Aristotle, Ptolemy, Copernicus, Galileo, Newton, Darwin, Mendel, and Einstein. *Prerequisite:* Sophomore Standing.

PHS 208 Physics for Life Sciences I (3.0); 3 cr. This course covers mechanics, relativity, hydrostatics, hydrodynamics, thermodynamics, and the physics of waves, with special emphasis on biological applications, *Prerequisite:* Sophomore Standing.

PHS 209 Physics for Life Sciences II (3.0); 3 cr. This course covers electricity and magnetism, modern physics: early quantum theory with emphasis on atomic and molecular applications, spectroscopy, nuclear physics, statistical mechanics, with special emphasis on biological and medical applications. *Prerequisite:* Sophomore Standing.

PHS 212 Electricity and Magnetism (3.0); 3 cr. Electrostatics: field, potential and dielectric. DC circuits and laws. Magnetic field, Ampere's and Faraday's laws, induction. AC circuits. Qualitative discussion of Maxwell's equations. *Corequisite:* MAT 224.

PHS 213 Modern Physics (3.0); 3 cr. Special Relativity. Quantization of electricity, charge, and light, blackbody radiation. particle-wave duality. Bohr model of Hydrogen. Schrodinger wave equation and application to one dimensional problems. Three-dimensional solution of the Hydrogen atom. Angular momentum and spin. *Corequisite:* MAT 235.

PHS 271 Electricity and Magnetism Laboratory (0.2); 1 cr. Selected experiments in electricity and magnetism. Emphasis is placed on statistical treatment of data and error estimation. *Corequisite:* PHS 212.

PHS 272 Modern Physics Laboratory (0.2); 1cr. Selected experiments in modern physics. Emphasis is placed on statistical treatment of data and error estimation. *Corequisite:* PHS 213.

PHS 275 Experimental Physics I (0.3); 1 cr. The first of a sequence of two sophomore physics labs. It includes selected experiments in classical mechanics, electricity and magnetism, and modern physics such as collisions, vibrations and waves, electric and magnetic field measurements, emission line spectroscopy, etc. Students learn about error analysis, software packages for data visualization and data analysis such as Excel, Matlab, and lab report writing. *Corequisite:* PHS 206.

PHS 276 Experimental Physics II (0.3); 1 cr. A continuation of PHS 275 with additional experiments and topics. *Prerequisite:* PHS 275

PHS 278 Physics for Life Sciences I Lab (0.2); 1 cr. Lab to accompany PHS 208. Experiments are performed in Mechanics, Hydrodynamics, Heat transfer and Waves. *Corequisite:* PHS 208.

PHY 279 Physics for Life Sciences II Lab (0.2) 1 cr. Lab to accompany PHS 209. Experiments in Electricity and Magnetism: Hall Effect, Circuits, Helmholtz Coil, and Modern Physics: Blackbody Radiation, Spectroscopy... *Corequisite:* PHS 209.

PHS 301 Optics (3.0); 3 cr. Topics covered: wave optics and properties of light including interference, Fraunhofer and Fresnel diffraction, polarization and double refraction. Introduction to lasers and holography. *Prerequisite:* PHS 206, PHS 212.

PHS 303 Analytical Mechanics (3.0); 3 cr. Particle kinematics and dynamics, central force problem, motion in non-inertial frames of reference, kinematics and dynamics of rigid bodies, Lagrangian mechanics, small oscillations, and relativistic momentum and energy. *Corequisite:* PHS 351 or MAT 335.

PHS 315 Nuclear Physics (3.0); 3 cr. General nuclear properties, radioactivity, nucleon-nucleon interaction, scattering, nuclear models, and nuclear reactions. *Prerequisite:* PHS 213.

PHS 346 Mathematical Methods for Physics I (3.1); 3 cr. The first of two courses covering mathematical tools relevant to the solution of physical problems. Topics include diagonalization of matrices, transformation of coordinates, Jacobian, functions of complex variables, gradient, curl, divergence, and elements of vector analysis. Both courses include a weekly lab session on a mathematical software package. *Prerequisites:* MAT 215, MAT 224.

PHS 350 Mathematical Methods for Physics II (3.1); 3 cr. Second of the series of two courses in mathematical tools of physics. Topics include partial differential equations, Fourier series and transforms, special functions, orthogonal functions, Greene's functions, integral equations. *Prerequisites:* MAT 215, MAT 224, MAT 235, PHS 346.

PHS 351 Mathematical Methods for Physics (3.0); 3 cr. Topics include partial differential equations, Fourier series and transforms, wavelets, special functions, orthogonal functions, Greene's function, integral equations. *Prerequisites:* MAT 215, MAT 224, MAT 235.

PHS 373 Experimental Physics III (0.3); 1 cr. The first of a sequence of two junior physics labs with more advanced experiments that may include forced oscillations and resonance, the Hall effect, diffraction, Zeeman effect, etc. Emphasis will continue on data and error analysis and report writing. *Prerequisite:* Junior Standing

PHS 374 Experimental Physics IV (0.3); 1 cr. The second of a sequence of two junior physics labs with more advanced experiments that will include long experiments on measurements of fundamental constants and other advanced topics. This lab will serve as a preparation for the Senior Project. *Prerequisite:* PHS 373.

PHS 375 Experimental Physics (0.6); 3 cr. Experiments in atomic and molecular physics, optics, and mechanical vibrations. Students have to perform open-ended experiments, and use computers for data analysis. *Prerequisites:* PHS 271 and PHS 272.

PHS 403 Elementary Particle Physics (3.0); 3 cr. Survey of elementary particles: leptons, hadrons, and quarks. Invariance principles and conservation laws. Detectors and accelerators. Phenomenological study of interactions. *Prerequisites:* PHS 435.

PHS 405 Solid State Physics (3.0); 3 cr. Topics include crystal structure, the band theory, the free-electron and Fermi-Dirac theory, and the physical properties of semiconductors and metals. *Prerequisites:* PHS 415

PHS 415 Thermal and Statistical Physics (3.0); 3 cr. Topics include: entropy and probability, energy and temperature, the three laws of thermodynamics, Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics, equation of state for simple systems, and

elementary theory of phase transitions.
Prerequisites: Senior Standing.

PHS 417 Electromagnetic Theory (3.0); 3 cr. Maxwell equations with applications to physical problems. Topics include: electrostatics, magnetostatics, Laplace and Poisson equations, dielectric and magnetic materials, electromagnetic waves and radiation, and special theory of relativity. *Prerequisites:* PHS 212, PHS 351 or MAT 335.

PHS 435 Quantum Mechanics (4.0) 4 cr. "Modern" quantum Mechanics. Hilbert space, operators, eigenvalues and eigenfunctions. Matrix formulation of quantum mechanics. Time-independent and time dependent

perturbation theories. Scattering theory and interaction of radiation with matter.
Prerequisites: PHS 213, PHS 303.

PHS 460 Selected Topics in Physics (3.0); 3 cr. Advanced topics selected from the different disciplines of physics. *Prerequisite:* Senior Standing.

PHS 497 Senior Project. 3 cr. A selected project in one of the different fields of physics. The project is expected to be an introduction to research through the involvement in an actual project carried by faculty members. *Prerequisites:* Senior standing and consent of the instructor.

Undergraduate Courses Astronomy

AST 201 Discovering Astronomy (3.0); 3 cr. A non-calculus based introduction to astronomy. It explores the wonders of the universe using observations from space and from the ground. It covers the solar system, stars and their evolution (black holes, white dwarfs...), galaxies and cosmology (the Big-Bang...). The course will include an observing night to discover the night sky, readings, and some elementary observations. Not open to physics students

AST 210 Introduction to Astronomy and Astrophysics (3.0); 3 cr. This introductory astrophysics course is designed for students majoring in physics. The course will include an introduction to the night sky and coordinate systems, magnitudes, and telescope types. The course will also introduce students to stellar astrophysics, the solar system, and galaxies.
Corequisite: PHS 213

AST 320 Astrophysics I: Stars (3.0); 3 cr. This course will specifically concentrate on stellar astrophysics. The course will discuss stellar

structure and nuclear astrophysics, stellar atmospheres and radiative transfer, star formation processes, and evolution of stars beyond the main sequence (pulsations, AGBs, white dwarfs, neutron stars, supernovae).
Prerequisite: AST 210

AST 321 Astrophysics II: Galaxies (3.0); 3 cr. This course deals with the nature and properties of galaxies and provides an introduction to cosmology. The course will cover the Milky Way, and properties of spiral, elliptical, and irregular galaxies. The course will also cover the basic elements of cosmology and the birth and evolution of the Universe as a whole.
Prerequisite: AST 210.

AST 370 Observational Astronomy (0.9); 3 cr. An introduction to the major observational techniques used in astrophysics and their corresponding instrumentation, based on practical observational projects. This course will also include a discussion of telescope optics.
Prerequisite: AST 210.

Undergraduate Courses: Geology

GEO 201 Physical Geology (3.0); 3 cr. Basic principles of structural and depositional geologic processes. Structure of the Earth. Minerals, rocks and soils. Minerals and Rocks identification. Geological maps interpretation.
Prerequisite: Sophomore Standing.

GEO 202 Geology for Architects (2.0) 2 cr. Minerals and Rocks, Earthquakes, Interpreting and Reading Topographical and Geological Maps, Geology of Lebanon, Laboratory Application and Field Trips.

GEO 311 Hydrogeology (3.0); 3 cr. Hydrologic cycle; meteorology; groundwater resources and uses; groundwater movement, natural and artificial discharge. Groundwater erosion and deposition. Lebanon's water resources.

GEO 312 Engineering Geology: 3 cr. Weather and soil-forming Processes; Application of engineering geology in foundations design; properties of rock substance and rock mass; Tunnels; Mass-Wasting Process; Ground Water in Engineering Geology; Fluvial Processes;

Dams; Land subsidence; coastal engineering geology; Earthquakes; Case Studies.

Prerequisite: GEO 201.

Undergraduate Courses: Health

HEA 201 Health Awareness (3.0); 3 cr. Comprehensive prevention-oriented approach to personal health topics: stress management, mental health, physical fitness, nutrition and weight control, human sexuality, communicable

and chronic diseases, addictive substances and personal safety.

HEA 203 Health Assessment (2.0); 2 cr. Lectures in the assessment of health throughout the life span, where students learn to identify normal and abnormal situations.

FACULTY OF NURSING (FN)

Sister Benoît Abou-Mhaya, Ph.D., *Acting Dean*

FACULTY DIRECTORY

Office of the Acting Dean

FN&AS Building, 3rd floor, Room S 333

Tel: 09-218950/51/52 (Extension 2364)

e-mail: baboumhaya@ndu.edu.lb

FACULTY OF NURSING

LIST OF FULL-TIME FACULTY MEMBERS

Associate Professor

Abou-Mhaya, Sister Benoît, Ph.D., 1983, *Psychiatric Nursing-Counseling Psychology*, Boston College, Massachusetts, USA

FACULTY OF NURSING

Acting Dean: *Sister Benoît Abou-Mhaya, Ph.D.*

Administrative Assistant: *Ms. Rita Orfali*

The Degree of Bachelor of Science in Nursing

The objective of this program is to prepare professional nurses who are able to assess, diagnose, and treat actual or potential health problems. Graduates should also be able to educate individuals, families and groups in community services in healthcare and illness prevention.

Admission Requirements

For admission requirements to the degree of BS in Nursing refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Nursing, a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total of 112 credits with a minimum overall grade point average (GPA) of at least 2.0/4.0, and a minimum GPA of 2.3/4.0 in core and major courses.

Degree Requirements (112 Credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| a) Communications Skills | 6 cr. |
| ENL 213, ENL 230 | |
| b) Cultural Studies | 9 cr. |
| REG 212 or REG 213 and ARB 211 or ARB 231 and NUR 203 | |
| c) Social Science Studies | 9 cr. |
| EDU 213, SOL 313, PSL 201 | |
| d) Basic Science Studies | 3 cr. |
| NTR 210 | |
| Major Requirements | 79 cr. |
| BIO 207, BIO 214, BIO 215, BIO 216, BIO 217, NUR 201, NUR 204, NUR 205, NUR 301, NUR 302, NUR 303, NUR 304, NUR 305, NUR 306, NUR 307, NUR 308, NUR 309, NUR 310, NUR 402, NUR 403, NUR 404, NUR 405, NUR 406, NUR 407, NUR 408, NUR 409, NUR 410 | |
| Free Electives | 6 cr. |

Bachelor of Science in Nursing Suggested Program (112 Credits)

Fall Semester I (18 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| PSL | 201 | Introduction to Psychology (GER) | 3 cr. |
| ENL | 213 | Sophomore English Rhetoric (GER) | 3 cr. |
| NTR | 210 | Human Nutrition (GER) | 3 cr. |
| BIO | 207 | Biochemistry for Nursing | 3 cr. |
| REG | — | GER | 3 cr. |
| ARB | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------------|-------|
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| EDU | 213 | Human Growth and Development (GER) | 3 cr. |
| BIO | 214 | Human Anatomy | 3 cr. |
| BIO | 215 | Human Physiology | 3 cr. |
| NUR | 201 | Nursing Concepts: Theory and Process | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----|---|-------|
| BIO | 216 | Microbiology and Immunology for Nursing | 3 cr. |
| NUR | 203 | Introduction to Bioethics (GER) | 3 cr. |

Fall Semester II (16 Credits)

| | | | |
|-----|-----|--|-------|
| BIO | 217 | Pathophysiology | 4 cr. |
| NUR | 204 | Health Assessment across the Life Span | 3 cr. |
| NUR | 301 | Adult Health Nursing I - Theory | 3 cr. |
| NUR | 302 | Adult Health Nursing I - Clinical | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester II (18 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| NUR | 205 | Nurse-Patient Relationship | 3 cr. |
| NUR | 303 | Adult Health Nursing II - Theory | 3 cr. |
| NUR | 304 | Adult Health Nursing II - Clinical | 3 cr. |
| NUR | 305 | Geriatric Nursing - Theory | 3 cr. |
| NUR | 306 | Geriatric Nursing - Clinical | 3 cr. |
| NUR | 307 | Pharmacology for Nursing | 3 cr. |

Summer Session II (6 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| NUR | 308 | Community Health Nursing - Theory | 2 cr. |
| NUR | 309 | Community Health Nursing - Clinical | 2 cr. |
| NUR | 310 | Legislation in Nursing | 2 cr. |

Fall Semester III (18 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| SOL | 313 | Family Violence & Child Abuse (GER) | 3 cr. |
| NUR | 402 | Obstetric Nursing - Theory | 3 cr. |
| NUR | 403 | Obstetric Nursing - Clinical | 3 cr. |
| NUR | 404 | Pediatric Nursing - Theory | 3 cr. |
| NUR | 405 | Pediatric Nursing - Clinical | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| NUR | 406 | Psychiatric & Mental Health Nursing - Theory | 3 cr. |
| NUR | 407 | Psychiatric & Mental Health Nursing - Clinical | 3 cr. |
| NUR | 408 | Leadership and Management in Nursing - Theory | 3 cr. |
| NUR | 409 | Leadership and Management in Nursing - Clinical | 3 cr. |
| NUR | 410 | Nursing Research | 3 cr. |

Undergraduate Courses: Nursing

NUR 201 Nursing Concepts: Theory and Process (3.0); 3 cr. The course offers the basic concepts of the nursing profession and practice, introducing the principles of communication and the various components of the nursing process used in the health care system.

NUR 203 Introduction to Bioethics (3.0); 3 cr. The course presents the basic principles and guidelines of bioethical issues related to the nursing profession. Issues and moral problems arising in the delivery of health care are addressed within the ethical context.

NUR 204 Health Assessment across the Life Span (3.0); 3 cr. This course provides the student with the knowledge and skills needed to assess the physical, psychosocial and cultural health status of individuals from infancy to old age in order to identify normal and abnormal findings.

NUR 205 Nurse – Patient Relationship (3.0); 3 cr. This course explores aspects of therapeutic communication skills in the nurse – patient relationship. The goal is to achieve a therapeutic professional outcome in the process of health care delivery. Moreover, the course brings insight and behavioral change in the exchange process.

NUR 301 Adult Health Nursing I – Theory (3.0); 3 cr. This course develops the knowledge and application of scientific principles in the care of adults presenting medical – surgical problems. It builds on the holistic approach to nursing care of the client through the application of the nursing process.

NUR 302 Adult Health Nursing I – Clinical (0.6); 3 cr. Using the nursing process, this course gives the student the opportunity to apply in a clinical setting the concepts and principles stated in NUR301. *Corequisite:* NUR 301.

NUR 303 Adult Health Nursing II – Theory (3.0); 3 cr. This course is a continuation of NUR 301 with an emphasis on dysfunctions related, among others, to metabolic, endocrine, neurologic, rheumatic and chronic conditions.

NUR 304 Adult Health Nursing II – Clinical (0.6); 3 cr. Using the nursing process, this course gives the student the opportunity to implement the concepts stated in NUR 303 in a variety of settings. *Corequisite:* NUR 303.

NUR 305 Geriatric Nursing – Theory (3.0); 3 cr. The course will focus on theories and concepts of the aging process, health problems and needs of the elderly, and health promotion and maintenance of the elderly in the community.

NUR 306 Geriatric Nursing – Clinical (0.6); 3 cr. The course will help in assessing and evaluating the impact of the aging process on the individual, the family and the society, as well as in planning and implementing appropriate nursing care for the elderly person. *Corequisite:* NUR 305.

NUR 307 Pharmacology for Nursing (3.0); 3 cr. This course focuses on the study of basic concepts in pharmacology and introduces the student to the different groups of therapeutic drugs used in professional nursing. It also introduces the role and responsibilities of the professional nurse in the administration of medication.

NUR 308 Community Health Nursing – Theory (2.0); 2 cr. The course presents the theories and concepts of health care in the community, the different nursing roles in community health, and the various legal, social and environmental issues affecting community health.

NUR 309 Community Health Nursing – Clinical (0.4); 2 cr. The course focuses on individual, family and community responses to actual or potential health problems. Health promotion, disease prevention, and care of clients with long-term illness are addressed. The clinical nursing process is used to determine the appropriate intervention in cooperation with team workers. *Corequisite:* NUR 308.

NUR 310 Legislation for Nursing (2.0); 2 cr. This course provides an understanding of the legal issues related to the nursing profession, and gives the student awareness and discernment in the process of performance within the health system, especially in Lebanon.

NUR 402 Obstetric Nursing – Theory (3.0); 3 cr. This course will focus on the nursing care of the woman during the maternity cycle and the care of the newborn, taking into consideration the physical, psychological and emotional needs of the woman during the pregnancy and post partum periods.

NUR 403 Obstetric Nursing – Clinical (0.6); 3 cr. The course emphasizes the implementation of the nursing concepts and process in maternal and neonatal care units. *Corequisite:* NUR 402.

NUR 404 Pediatric Nursing – Theory (3.0); 3 cr. This course presents theories and concepts associated with the response of children to acute and chronic illness. The emphasis is on the child's growth and development in relation to illness. The impact of developmental variables from infancy to adolescence is integrated throughout the course.

NUR 405 Pediatric Nursing – Clinical (0.6); 3 cr. This course focuses on the application of the theory of pediatric nursing in the clinical process for a variety of settings, using the nursing interventions in the care of the children and their families to help them in coping with acute and chronic health problems. *Corequisite:* NUR 404.

NUR 406 Psychiatric and Mental Health Nursing – Theory (3.0); 3 cr. This course introduces the student to principles and concepts associated with psychiatric and mental health nursing, and to the care of individuals and families with acute and chronic mental health problems.

NUR 407 Psychiatric and Mental Health Nursing – Clinical (0.6); 3 cr. This course focuses on the application of the nursing process

regarding the interventions in the clinical setting on patients suffering from acute and long-term mental health problems. Special emphasis is placed on assessing, planning, and establishing a nurse – patient therapeutic relationship in collaboration with the multi-disciplinary health team. *Corequisite:* NUR 406.

NUR 408 Leadership and Management in Nursing – Theory (3.0); 3 cr. The course will focus on the theories, concepts and modalities of leadership and management in nursing. It will assist the student in understanding the professional role of the nurse as a potential leader in various areas of health care.

NUR 409 Leadership and Management in Nursing – Clinical (0.6); 3 cr. The course will allow the student to make the transition from a dependent role as a student to a relatively independent role as a nurse-leader by observing, assisting and practicing the different modalities and skills of leadership and management in a variety of health care settings. *Corequisite:* NUR 408.

NUR 410 Nursing Research (3.0); 3 cr. The course introduces the student to the research scientific process and its application to nursing. Emphasis is placed on the basic research steps towards the assessment and evaluation of the data and the potential use of the findings.

**FACULTY OF
POLITICAL SCIENCE,
PUBLIC ADMINISTRATION
AND DIPLOMACY (FPSPAD)**

Dr. Chahine Ghais, *Dean*

FACULTY DIRECTORY

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Department of International Affairs and Diplomacy

Department of Public Administration

Department of Political Science

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FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION AND DIPLOMACY

LIST OF FULL-TIME FACULTY MEMBERS

Professors

¹*Nehme, Michel*, Ph.D., 1983, *Political Science*, Rutgers University, New Jersey, USA

Associate Professors

Ghais, Chahine, Ph.D., 1998, *Political Science*, University of Missouri-St. Louis, USA

Labaki, George, Doctorate, 1984, *Law*, Université de Paris-I, Pantheon, Sorbonne, France.

Salem, Naim, Ph.D., 1992, *International Studies*, University of South Carolina, USA

Assistant Professors

Sensenig-Dabbous, Eugene, Doktor Der Philosophie, 1985, *Political Science and German Literature*, Paris-Lodron-Universität, Salzburg, Austria

List of Staff Members

Basbous, Nayla Bassil, B.A., 1990, *Communication Arts*, BUC-LCHE, Lebanon

¹ Tenure

FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION AND DIPLOMACY

Dean: *Dr. Chahine Ghais*

Administrative Assistant: *Mrs. Nayla Basbous*

Degrees Offered

The Faculty of Political Science, Public Administration and Diplomacy consists of three Departments:

- Department of International Affairs and Diplomacy
- Department of Political Science
- Department of Public Administration

The Faculty of Political Science, Public Administration and Diplomacy offers programs leading to the degrees of:

- Bachelor of Arts in International Affairs and Diplomacy
- Master of Arts in International Affairs and Diplomacy
- Master of Arts in International Affairs and Diplomacy - International Law Concentration

- Bachelor of Arts in Political Science
- Bachelor of Arts in Political Science – American Studies Concentration
- Bachelor of Arts in Political Science – Euro-Mediterranean Studies Concentration
- Bachelor of Arts in Political Science – NGOs Concentration
- Master of Arts in Political Science – NGOs Concentration
- Master of Arts in Political Science
- Master of Arts in Political Science - Comparative Law Concentration

- Bachelor of Arts in Public Administration
- Bachelor of Arts in Public Administration - Criminal Justice Concentration
- Master of Arts in Public Administration

Bachelor of Arts Degrees

Admission Requirements:

Compliance with the general rules and regulations applied by NDU in the general Catalogue.

Graduation Requirements:

Students seeking the degree of Bachelor of Arts in the Faculty of PSPAD must complete a total of 105 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the major requirements.

Master's Degrees

Program Guidelines

The M.A. degrees in the Faculty of Political Science, Public Administration and Diplomacy, require each 36 credit hours, including a thesis. Courses are offered primarily in the late afternoon to allow students to pursue part-time employment or internship, if they so choose. The graduate programs require usually a minimum of four semesters of study depending on the full-time or part-time status of the student.

Objectives

The main objectives are to train students for government and public service as well as for employment in business and non-profit sectors that employ graduates to lead their organizations and international operations.

The programs are intended to prepare and train in theory and practice students for careers in research, national and foreign diplomatic service, contemporary political and economic issues, public service, international and regional organizations, multi-national corporations, financial institutions, media enterprises and the like.

Admission Requirements

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required (p. 46 general catalogue), students' undergraduate GPA of 3.0 minimum, work experience, letters of recommendation, motivation for a career and leadership are all taken into consideration. The Faculty may require the GRE exam for non-NDU students, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration:

PAD 201, POS 201, POS 210 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy - International Law Concentration:

IAF 211, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

36 credits of course work in addition to a comprehensive written and oral examination; or

2. successful completion of 30 credits course work and six credits thesis.

DEPARTMENT OF INTERNATIONAL AFFAIRS AND DIPLOMACY

The Department of International Affairs and Diplomacy offers three programs leading to the degrees of Bachelor of Arts and Master of Arts in International Affairs and Diplomacy and International Law.

The Degree of Bachelor of Arts in International Affairs and Diplomacy

The program of International Affairs and Diplomacy is designed to provide students with broad knowledge in the field. Graduates are prepared to work in several career areas. These include the Lebanese Government, notably the Ministry of Foreign Affairs; international and regional organizations such as the United Nations and its various agencies, multinational corporations, banking institutions, educational institutions, and, among others, media enterprises and the like.

Degree Requirements (105 credits)

General Education Requirements 27 cr.

ARB 211 or ARB 231, CSC 201, ENL 213, ENL 230, ENS 201, NTR 201, HIT 211, POS 201, REG 212 or REG 213.

Major Requirements 45 cr.

IAF 211, IAF 231, IAF 301, IAF 321, IAF 322, IAF 401, IAF 402, IAF 407, IAF 409, IAF 490, PAD 201, POS 210, POS 350, POS 353, POS 382

Electives in PSPAD (27 crs.), 3 of which should be taken in Economics. 27 cr.

From: ECN 200, ECN 211, ECN 212, PAD 322 or equivalent.

P.S: Students may choose to take 18 credits of those electives as a minor in other majors within the PSPAD Faculty.

Free Electives 6 cr.

Minor in IAF (for non-IAF Majors only) 18 crs.

Required: IAF 211, IAF 231, IAF 321

9 credits Electives from IAF courses

**Bachelor of Arts in International Affairs and Diplomacy
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| IAF | 211 | Intro. To International Relations | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| POS | 201 | Intro. to Pol. Science | 3 cr. |
| CSC | 201 | Computer & Its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| PAD | 201 | Intro. To Public Admin. | 3 cr. |
| ENL | 230 | English in the Workplace | 3 cr. |
| IAF | 231 | World Political Geography | 3 cr. |
| ECN | 212 | Macro – economics | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----|-----------------|-------|
| — | — | GER | 3 cr. |
| POS | 240 | Law and Society | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| IAF | 301 | Modern Political Ideologies | 3 cr. |
| PAD | 241 | Administrative Law | 3 cr. |
| POS | 210 | Government and Inst. of Lebanon | 3 cr. |
| IAF | 321 | Diplomacy: Theory and Practice | 3 cr. |
| POS | 350 | Comp. Gov. & Politics | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| POS | 442 | Lebanese Const. Law | 3 cr. |
| POS | 353 | Governments of the Middle East | 3 cr. |
| IAF | 322 | Lebanese Diplomacy | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--|-------|
| POS | 382 | Research Methods | 3 cr. |
| IAF | 401 | Public International Law | 3 cr. |
| IAF | 407 | International & Regional Organizations | 3 cr. |
| IAF | 402 | Human Rights in Intl. Pol. | 3 cr. |
| POS | 345 | Ethics & Leadership | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---|-------|
| IAF | 409 | Foreign Pol. Making of the M. P. | 3 cr. |
| IAF | 403 | Arab Israeli-Conflict | 3 cr. |
| IAF | 471 | Modern Europe | 3 cr. |
| POS | 479 | Govt. & Politics of the US | 3 cr. |
| IAF | 490 | Special Topics in International Affairs | 3 cr. |

Undergraduate Courses: International Affairs and Diplomacy

IAF 211 Introduction to International Relations (3.0); 3 cr. An examination of the nature and evolution of the major concepts that shape international relations: the balance of power, the role of states in the international system, international law, and the elements of foreign policy. *Prerequisite:* ENL 107

IAF 231 World Political Geography (3.0); 3 cr. A general survey of states in the world that focuses on politically relevant geographic information: location, size, population, principal cities, major resources.

IAF 301 Modern Political Ideologies (3.0); 3 cr. An introduction to the most influential political ideas in the modern world since the mid-nineteenth century. The focus is on the ideologies that have been influential and effective in the international system. *Prerequisite:* ENL 107

IAF 321 Diplomacy: Theory and Practice (3.0); 3 cr. An examination of the principles and practice of diplomacy, international relations, and an analysis of the structures, functions, and procedures of diplomatic and consular services, including diplomatic privileges, immunities, and recruitment of diplomatic and consular personnel. *Prerequisite:* IAF 211 or consent of instructor.

IAF 322 Lebanese Diplomacy (3.0); 3 cr. Covers the legal and practical evolution of the Lebanese diplomatic corps and focuses on the framework within which Lebanese diplomacy operates, the direction(s) which it generally takes regionally and internationally, and the approaches and strategies followed. (Arabic/English).

IAF 401 Public International Law (3.0); 3 cr. A study of the sources of Public International Law and its application in interstate relations.

IAF 402 Human Rights in International Politics (3.0); 3 cr. This course covers the conceptual bases of the fundamental rights of the human being. It focuses on international

principles, conventions, and treaties signed by governments on the question of human rights at the international, regional and national levels, and the ways and means through which violations of human rights may be documented and countered.

IAF 407 International and Regional Organizations (3.0); 3 cr. An examination of the structures, functions, and agencies of the United Nations and other regional international organizations, and their role in the international system. *Prerequisite:* IAF 211 or consent of instructor.

IAF 409 Foreign Policy Making of the Major Powers (3.0); 3 cr. An analysis of the making and objectives of the foreign policy of the major states in the international system in the context of globalization, the new world order, European integration, and other regional factors. *Prerequisite:* IAF 211 or consent of instructor.

IAF 411 Conflict Managements and Resolutions (3.0); 3 cr. This course examines the causes of conflict, its management and neutral resolution. It prepares the student to define the nature of conflict, understand its causes and ramifications, study ways to manage and limit its scope, and then search for solutions. *Prerequisite:* IAF 211 or consent of instructor.

IAF 453 Euro-Mediterranean Partnership (3.0); 3 cr. A study of the historical and Evolving relationships between Europe and the Middle East, and the factors of trade, resources, security, and geo-strategic consideration which influence these relationships.

IAF 471 Modern Europe and the European Union (3.0); 3 cr. A study of the European Union and its economic, political, social, financial, and legal institutions. Attention is given to the impact of the European integration process in Europe and beyond. *Prerequisite:* IAF 211 or consent of instructor.

IAF 490 Senior Study (3.0); 3 cr. Special topics in International Affairs and Diplomacy.

The Degree of Master of Arts in International Affairs & Diplomacy

The program is designed to provide students with indepth knowledge in international affairs and diplomacy, national foreign service, and contemporary political and economic issues. It offers a variety of courses in international relations, comparative government, international organizations, international law, and draws on some courses in economics and business.

Admission Requirements

Refer to the University graduate admission policy.

Graduation Requirements

Students seeking the degree of M.A. in International Affairs and Diplomacy must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination;
or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements

IAF 601, PAD 604, POS 681

9 cr.

Major-Related Electives

Choose 5 courses from

IAF 602, IAF 604, IAF 605, IAF 609, IAF 615, IAF 621, IAF 631, IAF 632, IAF 633, IAF 641, IAF 645, IAF 651, POS 611, POS 661

15 cr.

Free Electives

Option I: Thesis (IAF 699) in addition to 30 cr. Of course work

Option II : Successful completion of 36 credits of course work culminating in comprehensive written and oral exams.

6 or 12 cr.

Graduate Courses: International Affairs and Diplomacy

IAF 601 International Relations; Theory and Practice (3.0); 3 cr. The seminar surveys major theories of international relations and evaluates their utility for understanding international politics. It emphasizes: (1) The broad trends and theoretical frameworks which shape relations among states, both at the international and regional levels; (2) The implications of the power factors on the external and domestic policies of states; and (3) The factors leading to international cooperation and confrontation and their implications.

IAF 602 Economics of International Politics (3.0); 3 cr. The course investigates the relationship between economic and political processes in the international system, and the institutions involved in conducting these processes. Major theoretical understandings of international political economy are examined along with specific issues in the field. These issues include: International trade, trade and developing nations, transnational corporations, multinational investment, and the World Trade Organization.

IAF 604 Human Rights in International Politics (3.0); 3 cr. This seminar focuses on the role played by the UN and other intergovernmental organizations in protecting, promoting, and advancing these rights. Special emphasis is placed on problems of human rights violations worldwide, on international conventions, and the role of human rights organizations internationally.

IAF 605 International Organizations and Specialized Agencies (3.0); 3 cr. This seminar focuses on the role played by the UN and other intergovernmental organizations in international affairs. Special emphasis is placed on the operations of the specialized agencies (IMF, World Bank), the determinants of their policies, and the impact of these policies internationally.

IAF 609 Ethnic Conflict and Conflict Resolution (3.0); 3 cr. The seminar focuses on the theories and methods of conflict resolution, the relevant literature in the field, and the importance of conflict resolution mechanisms and modalities in international politics. These theories and modalities are applied to various intra- and interstate conflicts in the international

system, some of which are focused upon as case studies in the seminar.

IAF 615 Statesmanship and Diplomacy (3.0); 3 cr. Deals with the role of leaders and diplomats in protecting and promoting countries' interests and in influencing international politics, and addresses the factors that may guide or constrain statesmen in conducting foreign policy.

IAF 621 Contemporary International Issues (3.0); 3 cr. Provides an overview of the contemporary issues in international affairs that have political, strategic, and socio-economic significance in interstate relations. These issues range from ideological conflicts to technology and politics, warfare and politics, violence and terrorism, and nuclear proliferation.

IAF 623 The European Integration: Its impact (3.0); 3 cr. Analysis of the institutional structures of the European Union. Emphasis is on the economic and political effects of the integration process on Europe and beyond.

IAF 631 U.S. Foreign Policy Making (3.0); 3 cr. The seminar explores the United States' foreign policy-making from an institutional perspective. It focuses on Congress, the Presidency, and the relevant executive agencies. Attention is given to U.S. policy toward the Middle East.

IAF 632 Diplomacy (3.0); 3 cr. The focus in this seminar is on the role of diplomacy in interstate relations and how diplomacy can facilitate interaction among governments and nations and help to achieve national goals. It emphasizes the basics of diplomatic negotiations and bargaining along with the etiquettes of diplomatic and political relations.

IAF 633 Comparative Foreign Policy (3.0); 3 cr. The focus in this course is on how foreign policy is made in the context of a state's declared objectives. A primary attention is directed to the foreign policy-making of the major states in the international system and the various processes used to accomplish political goals. Ideologies, national interest, and the type of political system are focused upon insofar as they shape a state's foreign policy direction.

IAF 641 Public International Law (3.0); 3 cr. A graduate seminar that deals with the sources and development of international law, with a special attention given to current trends and problems. A critical evaluation of contemporary problems of world legal order is provided, covering issues related to global resources regimes, war, social and economic and trade laws.

IAF 645 Political Risk Analysis (3.0); 3 cr. This course aims at investigating current international events and highlighting their potential negative impacts in the political, economic, social, and business arenas. Students will be given case studies in the detection and analysis of risk indicators and their probable consequences.

IAF 649 International Energy and Environmental Issues (3.0); 3 cr. A study of energy questions globally from the perspectives of economic developmental needs, on the one hand, and environmental considerations and concerns, on the other. The seminar surveys the evolution of energy usage internationally and assesses the use of different sources of energy over time, the efficiency of these various sources, and their effects on development, the environment, and human society.

IAF 651 Comparative Economic Systems (3.0); 3 cr. A study of the major economic

systems around the world in their theories as well as practices. Emphasis is on comparing and contrasting the tenets of these systems, how they are applied, and their advantages and shortcomings.

IAF 657 Politics of International Economic Relations (3.0); 3 cr. Theories of international interdependence, dependence, and integration; politics of decision making on protectionism and international finance; role of multinational corporations in world political economy; North-South debate; economic issues and national security.

IAF 660 Special Topics in International Affairs (3.0); 3 cr. The seminar deals with current issues in international affairs that have political, strategic, or economic significance at the global or regional levels. The questions to be studied in this seminar are based on current international developments and are chosen according to the specialty of the professor directing the course.

IAF 699 Thesis; 6 cr. The thesis involves the application of research methods to a significant topic of current relevance to the spheres of international affairs and diplomacy. The project involves the incorporation of the student's hypotheses, methods of testing, test results and conclusion in a sound, written report available to later researchers.

The Degree of Master of Arts in International Affairs and Diplomacy - International Law Concentration

Objectives:

In an increasingly interactive world influenced by state and non-state actors in which governments, peoples, and large varieties of organizations and multinational corporations interact on a daily basis through an enormity of contracts, regulations, laws and procedures, it has become required that higher educational institutions stress in their academic curricula the importance of International Law. This specialty helps students understand the basic different legal systems applied in international relations.

Admission Requirements:

Compliance with the general rules and regulations applied by NDU in the general Catalogue.

Graduation Requirements

Successful completion of 36 semester credits with an overall GPA of at least 3.0/4.0.

Degree Requirements (36 credits)

Core Requirements

IAF 601, PAD 604, POS 681

9 cr.

Major-related Electives: choose 5 courses

Choose any 5 INL courses from those listed in the catalog.
CPL 611 is considered a major related elective.

15 cr.

Free Electives

Option I: Thesis (INL 699) in addition to 30 credits of course work.

Option II: Successful completion of 36 credits of course work culminating in comprehensive written and oral exams.

6 or 12 cr.

Graduate Courses: International Law

INL 620 International and Comparative Patent Law (3.0); 3 cr. A study of patent reform issues including domestic patent reform legislation and ongoing harmonization treaty discussions under WIPO; review of selected topics with comparative study from the viewpoint of Japan, the United States, and Europe.

INL 622 International Environmental Law (3.0); 3 cr. Studies of the treaty negotiation process, role of international institutions in developing and implementing environmental agreements, relationship between environmental law and international issues, developing countries' perspectives on environmental law. Issues covered include climate change, export of hazardous waste, deforestation and biodiversity, Antarctica, and environmental concerns in war, human rights, and development financing.

INL 624 International Business Transactions (3.0); 3 cr. U.S. law and practice relating to characteristic forms of international transactions, including the transnational sale of goods (the law governing the documentary sale, various forms of letters of credit, commercial terms and insurance); the export of technology through franchising, distributorship, and licensing contracts; and the export of capital through the establishment, operation, and withdrawal of foreign direct investment. The impact of relevant international organizations and/or emerging substantive international commercial law (e.g., the United Nations convention on Contracts for the International Sale of Goods). Specialized problems in the negotiation and structure of international transactions.

INL 626 International Trade Law (3.0); 3 cr. Study of domestic and international laws and institutions governing foreign trade. Legal aspects of U.S. participation in the World Trade Organization, NAFTA, and other international forums, laws regulating customs and tariffs, most-favored nation treatment, subsidies, dumping, unfair trade practices, and disruptive imports under the escape clause. Specialized problems in regulating exports under the Export Administration Act, boycotts, corrupt practices, and restrictive business practices may be covered.

INL 628 International Litigation (3.0); 3 cr. Study of the history, forms, progress, problems,

and future of interstate, third party dispute resolution. Examination of basic issues and principles of public international litigation and arbitration between governments and between a government and a private entity. Investigation of the guiding principles and essential elements of conducting litigation in the arena of public international law and with state parties through in-depth examination of leading cases before the International Court of Justice. Problems of mixed and interstate arbitration, both ad hoc and institutional.

INL 630 Immigration Law (3.0); 3 cr. Theory and application of the Immigration and Nationality Act and 8 Code of Federal Regulations. Examination of practice before the Executive Office of Immigration Review, Immigration and Naturalization Service, Department of State and Department of Labor. Removal, political asylum, adjustment of status, naturalization, and other issues. Focus on family-and employment-based immigration practice. Examination of the procedural aspects of obtaining lawful permanent resident status in the U.S. through the family and/or employment preferences categories, as well as the process for obtaining non-immigrant admission.

INL 632 Refugee and Asylum Law Seminar (3.0); 3 cr. Selected topics from the areas of international law pertaining to the protection of refugees and domestic law of political asylum.

INL 634 International Banking (3.0); 3 cr. Study of the legal aspects of international banking and finance, including international laws and regulations concerning the structure and transactions of international banks and institutions. Topics include the institutional, legal and regulatory framework for international commercial banking and development finance; the emerging rules regarding international trade in financial services; international supervision of banking activities and regulation of banking transactions; contractual instruments for international financial transactions; and international debt and development crisis.

INL 636 Foreign Direct Investment (3.0); 3 cr. An examination of the legal, business and financial problems involved in investing across national borders. Focuses on the strategies and techniques for structuring such investments and on the framework of regulation that affects them.

The analysis includes US regulation of foreign investors, different types of foreign regulation of US investments, and international controls on domestic regulation of foreign investment through treaties and conventions. Model international transactions and sample documents are used to illustrate basic issues.

INL 638 International Law of Human Rights (3.0); 3 cr. An overview of international and regional human rights instruments and institutions, focusing on the manner in which the U.N., Middle Eastern, European, Inter-American, African and Asian human rights systems seek to protect individual and group rights. Examination of the problems these systems have encountered in discharging their mandate and exploration of ways to strengthen international and regional governmental and non-governmental efforts in the human rights field.

INL 640 Air and Space Law (3.0); 3 cr. Study of the development of international law related to the use of air space and outer space; analysis of air and space treaties in force; the role of various inter-governmental and non-governmental international organizations; consideration of special problems such as liability resulting from space activities, space technology, reusing of earth resources, arms control, and pollution and contamination of outer space.

INL 642 Law of the Sea (3.0); 3 cr. International law related to the use of ocean space. Development of international law concerning internal waters, territorial sea, contiguous zone, high seas, continental shelf-fisheries, exclusive economic zone, maritime boundaries, marine environment, marine scientific research, deep seabed and settlement of disputes. Current legal and policy issues associated with these areas.

INL 644 International Law of Territory (3.0); 3 cr. Basic principles of the international law of territory, including the definition of territory, the forms it may take, its relationship to states and other subjects of international law, how territory is acquired, how it is lost and how it is transferred, how it is delimited and demarcated, how the title to territory is affected by historical

and demographic factors, and traditional and contemporary principles and mechanisms for resolution of territorial disputes. Consideration of the modification of these principles since World War II and their possible application to several intense post-Cold War territorial disputes.

INL 646 Law of War (3.0); 3 cr. Examines the origins of the law of war, the 1949 Geneva Conventions for the Protection of War Victims, the Geneva Protocols of 1977, the 1980 Geneva Conventional Weapons Convention, other treaties and customary international law relating to means and methods of warfare, the role of the International Committee of the Red Cross, war crimes and enforcement mechanisms, and current problems in the regulation of hostilities.

INL 648 International Criminal Law (3.0); 3 cr. Study of selected issues attending the application of criminal law across international boundaries. Topics may include war crimes, terrorism, narcotics trafficking, money laundering, business fraud, extradition, and the recognition of foreign penal judgments.

INL 650 International Arbitration (3.0); 3 cr. Survey of arbitration and related mechanisms of dispute resolution in the international legal system that arise out of commercial, financial, and governmental transactions. Analysis of the arbitration agreement, the process of arbitration, and the enforcement of arbitrate awards as well as the common principles governing the disposition of claims. Review of the various arbitrate tribunals and their rules.

INL 652 International Negotiations (3.0); 3 cr. The art and science of international negotiations from a practitioner's perspective: analysis of the roles of the legislative and executive branches; examination of the inter- and intra-agency processes, including pre-, during, and post-negotiation, impact of external influences; and arms control negotiations, and practical exercises in negotiations.

INL 699 Thesis; 6 cr. The thesis involves The application of research methods to a significant Topic of current relevance to the spheres of international law.

DEPARTMENT OF POLITICAL SCIENCE

The Department of Political Science offers two programs: leading to the degrees of Bachelor of Arts and Master of Arts.

The Degree of Bachelor of Arts in Political Science

The program is designed to provide students with full awareness of the discipline of Political Science. The major program will equip students with deep knowledge, and will afford them a smooth and solid transition into the graduate studies as well as professional preparation in areas which include: Public sector, foreign service, international and regional organizations, multi-national corporations, banking institutions, media and other enterprises.

Degree Requirements (105 credits)

General Education Requirements 27 cr

CSC 201, ENL 213, ENL 230, HIT 211, POS 201
ARB 211 or ARB 231, REG 212 or REG 213, ENS 201, NTR 201.

Major Requirements 45 cr.

IAF 211, IAF 301, IAF 401, IAF 407, IAF 409, PAD 201, PAD 241, PAD 302,
POS 210, POS 345, POS 350, POS 353, POS 382, POS 442, POS 490.

Electives in PSPAD (27 crs.) 3 of which should be in Economics. 27 cr.

From: ECN 200, ECN 211, ECN 212, PAD 322 or equivalent
P.S.: Students may choose to take 18 credits of those electives as a minor in other majors within the PSPAD Faculty.

Free Electives 6 cr.

Minor in Pol.Sc. (for non-Pol. Science Majors only) 18 cr.

Required: POS 210, POS 350, IAF 211,
9 credits of Electives from POS courses

**Bachelor of Arts in Political Science
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 201 | Intro. to Pol. Science | 3 cr. |
| IAF | 211 | Intro. To Intl. Relations | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| CSC | 201 | Computer & its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| PAD | 201 | Intro. To Public Admin. | 3 cr. |
| POS | 240 | Law & Society | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HIT | 211 | Hist. of Leb. & M.E. | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| PAD | 241 | Admin. Law | 3 cr. |
| IAF | 301 | Modern Pol. Ideologies | 3 cr. |
| POS | 350 | Comp. Government & Pol. | 3 cr. |
| POS | 210 | Gov. & Inst. Of Lebanon | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|-----------------------------|-------|
| POS | 331 | Judicial Politics | 3 cr. |
| PAD | 302 | Elements of Pub. Policy | 3 cr. |
| POS | 442 | Lebanese Const. Law | 3 cr. |
| POS | 353 | Gov. & Politics of the M.E. | 3 cr. |
| — | — | Major elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| POS | 345 | Ethics & Leadership | 3 cr. |
| POS | 317 | Pol. Parties, Pub. Op. Pressure Gr. | 3 cr. |
| IAF | 402 | Human Rights in Intl. Pol. | 3 cr. |
| IAF | 407 | Intl. & Regional Org. | 3 cr. |
| — | — | Major Elective | 3 cr. |

Spring Semester III (18 Credits)

| | | | |
|-----|-----|---|-------|
| POS | 421 | Environmental Pol. | 3 cr. |
| POS | 479 | Gov. & Pol. Of US | 3 cr. |
| IAF | 401 | Public Intl. Law | 3 cr. |
| POS | 409 | Foreign Pol. Making of the Major Powers | 3 cr. |
| POS | 490 | Special Topics in Pol. Science | 3 cr. |

The Degree of Bachelor of Arts in Political Science – American Studies Concentration

The program introduces students to the field of Political Science in general, and concentrates on American Studies. In addition to the general Political Science courses, students take courses which include: American History, American Constitutional Law, Government and Politics of the US, American Political Parties and Pressure Groups, and American culture. The major program will equip students with professional preparation in the respective areas to include: Public sector, foreign service, international and regional organizations, multi-national corporations, banking institutions, media and other enterprises.

Degree Requirements (105 credits)

General University Requirements **27 cr**
CSC 201, ENL 213, ENL 230, HIT 211, POS 201, ARB 211 or ARB 231, REG 212 or REG 213, ENS 201, NTR 201.

Major Requirements **45 cr.**
IAF 211, IAF 301, IAF 401, IAF 407, IAF 409, PAD 201, PAD 241, PAD 302, POS 210, POS 345, POS 350, POS 353, POS 382, POS 442, POS 490.

Electives in PSPAD (27 crs.) 3 of which should be taken in Economics. **27 cr.**
From: ECN 200, ECN 211, ECN 212, PAD 322 or equivalent
and 15 crs. in AMS courses and POS 479
P.S. Students may choose to take 18 credits of those electives as a minor in other majors within the PSPAD Faculty.

Free Electives **6 cr.**

Minor in American Studies **18 cr.**
AMS 305, AMS 316, AMS 408, AMS 481, AMS 483, POS 479

Bachelor of Arts in Political Science - American Studies Concentration
Suggested Program (105 Credits)

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 201 | Intro. to Pol. Science | 3 cr. |
| IAF | 211 | Intro. To Intl. Relations | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| CSC | 201 | Computer & its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| PAD | 201 | Intro. To Public Admin. | 3 cr. |
| POS | 240 | Law & Society | 3 cr. |
| ENL | 230 | English in the Workplace | 3 cr. |
| HIT | 211 | Hist. of Leb. & M.E. | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|---------------|-------|
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|-------------------------|-------|
| AMS | 316 | American History | 3 cr. |
| IAF | 301 | Modern Pol. Ideologies | 3 cr. |
| POS | 350 | Comp. Government & Pol. | 3 cr. |
| POS | 210 | Gov. & Inst. Of Lebanon | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| POS | 331 | Judicial Politics | 3 cr. |
| PAD | 302 | Elements of Pub. Policy | 3 cr. |
| AMS | 481 | American Const. Law | 3 cr. |
| IAF | 321 | Diplomacy: Theory & Practice | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (15 credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| POS | 345 | Ethics & Leadership | 3 cr. |
| POS | 317 | Pol. Parties, Pub. Op. Pressure Gr. | 3 cr. |
| IAF | 402 | Human Rights in Intl. Pol. | 3 cr. |
| IAF | 407 | Intl. & Regional Org. | 3 cr. |
| AMS | 408 | American Foreign Policy | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| POS | 421 | Environmental Pol. | 3 cr. |
| POS | 479 | Gov. & Pol. Of US | 3 cr. |
| IAF | 401 | Public Intl. Law | 3 cr. |
| POS | 490 | Special Topics in Pol. Science | 3 cr. |
| — | — | Major Elective | 3 cr. |

The Degree of Bachelor of Arts in Political Science – Euro-Mediterranean Studies Concentration

The program is designed to provide students with in-depth awareness of the discipline of Political Science in general and concentrates on Euro-Mediterranean studies. In addition to the general Political Science courses, students take courses which include Modern European Thought, European Politics, European Civic Politics, special topics, Politics and Culture of Russia and Eastern Europe.

Degree Requirements (105 credits)

General University Requirements 27 cr

CSC 201, ENL 213, ENL 230, HIT 211, POS 201, ARB 211 or ARB 231, REG 212 or REG 213, ENS 201, NTR 201.

Major Requirements 45 cr.

IAF 211, IAF 301, IAF 401, IAF 407, IAF 409, PAD 201, PAD 241, PAD 302, POS 210, POS 345, POS 350, POS 353, POS 382, POS 442, POS 490.

Electives in PSPAD (27 cr.) 3 of which should be taken in Economics 27 cr.

From: ECN 200, ECN 211, ECN 212, PAD 322 or equivalent and 15 crs. in EMS courses and IAF 471

P.S: Students may choose to take 18 credits of those electives as a minor in other majors within the PSPAD Faculty.

Free Electives 6 cr.

Minor in PSPAD 18 cr.

EMS 303, EMS 371, EMS 391, EMS 483, EMS 490, IAF 471

**Bachelor of Arts in Political Science - Euro-Mediterranean Studies Concentration
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 201 | Intro. to Pol. Science | 3 cr. |
| IAF | 211 | Intro. To Intl. Relations | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| CSC | 201 | Computer & its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| PAD | 201 | Intro. To Public Admin. | 3 cr. |
| POS | 240 | Law & Society | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| HIT | 211 | Hist. of Leb. & M.E. | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|---------------|-------|
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| EMS | 303 | Modern European Thoughts | 3 cr. |
| IAF | 301 | Modern Pol. Ideologies | 3 cr. |
| POS | 350 | Comp. Government & Pol. | 3 cr. |
| POS | 210 | Gov. & Inst. Of Lebanon | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|------------------------------|-------|
| POS | 331 | Judicial Politics | 3 cr. |
| EMS | 391 | European Politics | 3 cr. |
| EMS | 371 | European Civic Politics | 3 cr. |
| IAF | 321 | Diplomacy: Theory & Practice | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| POS | 345 | Ethics & Leadership | 3 cr. |
| IAF | 453 | Euro-Mediterranean Partnership | 3 cr. |
| IAF | 402 | Human Rights in Intl. Pol. | 3 cr. |
| IAF | 407 | Intl. & Regional Org. | 3 cr. |
| AMS | 408 | American Foreign Policy | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| POS | 421 | Environmental Pol. | 3 cr. |
| IAF | 471 | Modern Europe | 3 cr. |
| IAF | 401 | Public Intl. Law | 3 cr. |
| POS | 490 | Special Topics in European Studies | 3 cr. |
| — | — | Major Elective | 3 cr. |

The Degree of Bachelor of Arts in Political Science – NGOs Concentration

Non-governmental organizations (NGOs) play an important role in creating an open and viable democratic society. This rapidly expanding sector faces the challenges posed by the transition economy and society, and Lebanese and Middle East NGO managers point out the lack of managerial skills as their main problem in coping with these realities. The results of surveys of the NGO sector in this region confirmed that there is a great interest in conceptual knowledge on NGO management as a science and profession. Existing short-term training programs and seminars, proposed mostly by the NGOs themselves, can provide the participants with operational skills, but fundamental practical and theoretical knowledge is needed.

We see the Degree Program of training in NGO management and civil society to be a most adequate option for developing a stratum of professional managers in this sector in Lebanon and the Arab World. The Program allows to match basic management education with NGO management and civil society specialized knowledge and skills. The Program will be realized through BA and MA degrees in the Semester format, built up of 1575 and 540 academic hours respectively of in-class work in total. Special courses have been designed for the Program and a resource library is built up for the use of students and teachers.

This program is designed to provide students with broad knowledge in the field of International and Civil Society Organizations and specifically NGOs and NPOs. Acquaintance of the Third Sector, Development Cooperation, Civil Society Organizations, government institutions, multi-lateral and bilateral back-donors, networking with multinational corporations, and, among others, media enterprises and the like, will be part of the curricula at large. Graduates will be prepared to work in several career areas, specifically in independent international, regional and local organizations and those that operate under the umbrella of the United Nations and its various agencies, as well as other major development actors in the MENA-region and Arab World and beyond.

Admission Requirements

Applicants must pass the Lebanese Baccalaureate Part II (any strand) or its equivalent as identified by the Lebanese Ministry of Education. They are required to sit for an English Entrance Test (EET) or Test of English as a Foreign Language (TOEFL).

Graduation Requirements

You will need to complete:

- a. 27 credits of General Education Requirements; as the name indicates, those credits consist of 9 courses introducing basic knowledge of English and Arabic proficiency, political science, history, general science and humanities.
- b. 48 credits of Major Requirements; 16 courses will bring you to the world of NGOs, Civil Society and Development, and more specifically into the role of the NGOs in Lebanon and the MENA region, their concerns and the management of NGOs, in addition to elementary knowledge of international relations and organizations, public administration and public policy.
- c. 24 elective credits; 8 courses of which five will be in the NGO field and 3 courses chosen from the wide range of courses offered in the Faculty of PSPAD.
- d. 6 free elective credits; 2 courses selected from the whole university course offering.

**Bachelor of Arts in Political Science - NGO Concentration
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|----------------------------------|-------|
| NGO | 201 | Intro. To NGOs and Civil Society | 3 cr. |
| ENL | 222 | Sophomore Rhetoric | 3 cr. |
| NGO | 202 | Intro. to Development Theory | 3 cr. |
| CSC | 201 | Computer & Its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---|-------|
| NGO | 203 | Intro. To NGO Management | 3 cr. |
| ENL | 235 | Technical English | 3 cr. |
| NGO | 204 | Civil Society in the MENA-region & Arab World | 3 cr. |
| ECN | 212 | Macro – economics | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|-----|-----|---|-------|
| IAF | 211 | Introduction to International Relations | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|---|-------|
| NGO | 301 | Intro. To Organization Development | 3 cr. |
| PAD | 201 | Introduction to Public Administration | 3 cr. |
| IAF | 407 | International and Regional Organization | 3 cr. |
| NGO | 302 | Human Resource Management | 3 cr. |
| POS | 350 | Comp. Gov. & Politics | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| POS | 442 | Lebanese Const. Law | 3 cr. |
| POS | 353 | Governments of the Middle East | 3 cr. |
| NGO | 303 | Financial Management | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|----------------------------|-------|
| POS | 382 | Research Methods | 3 cr. |
| NGO | 401 | Civil Society and Advocacy | 3 cr. |
| NGO | 402 | Humanitarian Assistance | 3 cr. |
| NGO | 403 | Social Policy | 3 cr. |
| POS | 345 | Ethics & Leadership | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|-----------------------------------|-------|
| NGO | 404 | International Cooperation | 3 cr. |
| NGO | 490 | Special Topics | 3 cr. |
| NGO | 405 | Management of Social Institutions | 3 cr. |
| POS | 421 | Environmental Pol. | 3 cr. |
| NGO | 406 | Corporate Social Responsibility | 3 cr. |

Undergraduate Courses: American Studies Courses

AMS 305 Cultural Pluralism in America (3.0); 3 cr. Survey of the development of American Society focusing on the role of Afro Americans, concepts of cultural pluralism, racism and inter-group relations explored within a comparative historical framework.

AMS 316 American History (3.0); 3 cr. Studies the various stages in the American history, colonial England, Independence, Confederacy and Federacy, the Civil War, WWI, the New Deal, WWII and after.

AMS 408 American Foreign Policy (3.0); 3 cr. The process of formulating US foreign policy,

with emphasis on the Department of State and the Foreign Services. Analyzes the major problems of American policy in action.

AMS 481 American Constitutional Law (3.0); 3 cr. The development of constitutional doctrine concerning public power that has resulted from US supreme court cases and decisions.

AMS 483 Social Welfare in America (3.0); 3 cr. Advanced survey of social services, public policies, and the profession of social work. Issues include dependency, deviancy, crime, social security, public health, social reforms, public and voluntary institutions.

Undergraduate Courses: Euro-Mediterranean Courses

EMS 303 Modern European Thought (3.0); 3 cr. Overview of the history of ideas in Europe beginning with the Renaissance and covering the liberal age, authoritarian ideologies, and contemporary liberal democracy.

EMS 371 European Civic Politics (3.0); 3 cr. Focuses on the role of civic society in influencing governmental institutions and shaping the political, economic, and social settings. Particular attention is given to parties and citizens' groups.

EMS 391 European Politics (3.0); 3 cr. A survey of the new Europe, from Dublin to

Moscow, in relation to its political history and future prospects. Geography, economic issues, and military matters are stressed along with the European cultural and sub-cultural identities.

EMS 483 Politics and Culture of Russia and Eastern European Countries (3.0); 3 cr. The ideology, political and social structures, of Russia are examined in the context of imperial expansion, the Communist Revolution, and the subsequent collapse of communism and the break-up of the Soviet Union.

EMS 490 Senior Study: Special Topics in Euro-Mediterranean Studies (3.0); 3 cr.

Undergraduate Courses: History

HIT 101 Contemporary History of Lebanon (3.0); 3 cr. Covers Lebanon's contemporary history. Political, economic and social developments are stressed.

HIT 201 History of Lebanon (3.0); 3 cr. Covers the history of Mount Lebanon and its

neighboring area, from the Arab conquest until independence. *Prerequisite:* ENL 105.

HIT 211 History of Lebanon and the Middle East (3.0); 3 cr. Deals with the Middle East since the beginning of the Ottoman domination till the present. *Prerequisite:* ENL 107.

Undergraduate Courses: NGOs

NGO 201 Introduction to NGOs and Civil Society (3.0); 3 cr. An introduction to NGOs and Civil Society Organizations, their scope, size, structure and funding base. A special emphasis on their contribution to poverty alleviation/reduction, sustainable societies and the progress of social welfare. *Prerequisite:* ENL 107

NGO 202 Introduction to Development Theory (3.0); 3 cr. An introduction to key concepts and current paradigms related to

development, poverty alleviation/reduction, international cooperation and relief.

NGO 203 Introduction to NGO Management (3.0); 3 cr. An overview of the main areas related to NGO Management such as the context in which the Third Sector is operating, the organizational set-up of NGOs, the relations and the programs, projects and other related activities. The main focus will be on development management. *Prerequisite:* ENL 107

NGO 204 Civil Society in the MENA-region (3.0); 3 cr. An analysis of the interaction and networking that take place between NGOs, the State and Non-formal Social Actors in the Middle East, North Africa-region (MENA). A special focus on the typologies of CSO active in the region and the examination of current data from the Arab World.

NGO 205 Legal Framework of NGOs (3.0); 3 cr. This course will study the laws applied to NGOs, the procedure of their legal registration, restrictions in their activities, in Lebanon and other MENA-countries, and will also compare these laws with the legal framework of NGOs in Western countries.

NGO 301 Introduction to Organization Development (3.0); 3 cr. An examination of current models for organizational assessment and change related to Civil Society Organizations and how different OD-interventions and tools can be applied within the Third Sector. *Prerequisite:* IAF 211 or consent of instructor.

NGO 302 NGOs and Human Resource Management (3.0); 3 cr. An examination of how NGOs are managing their human resources with a special focus on how to build teams with a participatory approach. The course will treat how to do the human resource planning and implementation, which includes recruitment, management and motivation of the personnel. *Prerequisite:* IAF 211 or consent of instructor.

NGO 303 Financial Management for NGOs (3.0); 3 cr. An introduction to financial management in non-profit organisations introducing the four areas of financial management which includes financial planning, the financial control systems, the monitoring and reporting and the accounting records. In addition, an overview of the basic elements, the preparation for the external audit of the accounts. *Prerequisite:* IAF 211 or consent of instructor.

NGO 304 Project Management for NGOs (3.0); 3 cr. An introduction to how NGOs prepare, design, fund, manage, implement, monitor and report projects mainly in the development sector. Project-tools on Project Cycle Management (PCM) as well as the Logical Framework Approach (LFA) will be introduced.

NGO 305 Civil Society & Globalization (3.0); 3 cr. A study which enables the understanding,

analysis and interpretation of the key concepts of globalization and the related current external factors and challenges affecting Civil Society and NGOs.

NGO 306 NGOs and Development (3.0); 3 cr. A study of the changing role of NGOs in the development process. A special emphasis on how the focus have changed from short-term relief & welfare to a more sustainable and community based approach.

NGO 307 Religion and Development (3.0); 3 cr. An exploration of the social and developmental roles of Religion in the Middle East and the challenges, opportunities and threats Islamic and Christian Faith Based Organizations are facing in the current context.

NGO 401 Civil Society and Advocacy (3.0); 3 cr. An introduction to main concepts, definitions and challenges to advocacy in the Third Sector. This course covers how NGOs are building up their advocacy strategies, what kind of tools that are being applied and how the main stakeholders will be involved in the process.

NGO 402 Disaster Response & Humanitarian Assistance (3.0); 3 cr. An introduction to the Humanitarian Charter and Minimum Standards in Disaster Response. These standards cover areas in water supply, nutrition, food aid, shelter & site planning and health services and have been adopted by all major agencies involved in Humanitarian Assistance.

NGO 403 Social Policy (3.0); 3 cr. An overview on how social policy is being shaped and elaborated in Welfare States and countries with emerging Civil Societies in the MENA-region. A special emphasis on networking between the State and NGOs on how to assure basic social rights.

NGO 404 International Development Cooperation (3.0); 3 cr. An overview of the strategic framework involving Multilateral and Bilateral agencies, International and Local NGOs and their partnerships, alliances and relations in the MENA-context. The course will also treat the current and past paradigms in Development Cooperation.

NGO 405 Management of Social Institutions (3.0); 3 cr. This course will outline the basic theoretical framework, as well as the administrative principles and strategic framework, on how to manage Non-Profit organizations in charge of different kinds of

institutions active in sectors like education, health care and social affairs.

NGO 406 Gender & Development (3.0); 3 cr. This course will treat gender inequality and its correlation with poverty which results in acute failure of human capabilities. The women's empowerment deficit in the Arab World will be examined and analysed through the Arab Human Development Reports as well as the strategies to overcome the current obstacles.

NGO 407 NGOs and Sustainable Environment (3.0); 3 cr. This course will examine the concept of sustainable development since the World Commission on Environment and Development in 1987 and the process initiated by the UNCED Conference in Rio 1992. Main areas that will be analyzed are issues related to human needs and the main environmental factors to take into consideration in the development process.

NGO 408 Social Responsibility and the Private Sector (3.0); 3 cr. This course will study how the Private Sector and Corporations interact with other Civil Society Actors in integrating social and environmental concerns in their operations and activities. Related concepts on Corporate Accountability, Governance & Citizenship as well as Social Responsibility & Ethical Investments, will be examined.

NGO 409 Social Marketing (3.0); 3 cr. This course will introduce the basic principles of social marketing, explaining how techniques like advertising, branding, segmentation and the marketing mix can be used to tackle important social and health problems. It will outline the relevant theories underpinning social marketing, explain the range of techniques marketer's use and show how these can be applied to specific public health challenges. It will also assess criticisms of social marketing and the ethical issues the discipline has to confront.

NGO 410 Volunteer Management in NGOs (3.0); 3 cr. Volunteers are the heart of many NGOs and, like employees, need recruitment, reward, incentives, contracts, termination and committees. This course will study the good practices and ethical issues around management of volunteers in NGOs and community work.
Prerequisite: NGO 302

NGO 490 Special Topics (3.0); 3 cr. Special topics in NGO Management.

NGO 491 (1.0); 1 cr. Internship in an NGO, UN agency or social institution.

NGO 492 (2.0); 2 cr. Internship in an NGO, UN agency or social institution.

NGO 493 (3.0); 3 cr. Internship in an NGO, UN agency or social institution.

Undergraduate Courses: Political Science

POS 101 Principles of Politics & Government (3.0); 3 cr. Introduces the basic political philosophies and governmental processes, and the relationships between rights, liberties, and responsibilities of individuals and governments.

POS 201 Introduction to Political Science (3.0); 3 cr. Covers the basic concepts in political science. *Prerequisite:* ENL 107.

POS 210 Governments and Institutions of Lebanon (3.0); 3 cr. An introduction to the various characteristics that have shaped the Lebanese political system. An introduction to the processes of parliamentary, executive, administrative, and judiciary government is provided.

POS 212 Political History of the Near East Until World War I (3.0); 3 cr. A survey of political history and culture of the Mediterranean civilizations.

POS 240 Law and Society (3.0); 3 cr. Nature, purposes and sanctions of law sources of law private and public law. Common and civil law, courts and administration of justice. This course is a prerequisite to all law courses. *Prerequisite:* ENL 107.

POS 317 Political Parties, Public Opinion, Pressure Groups (3.0); 3 cr. Analysis of pressure politics and political behavior. Impact of parties and pressure group on the governmental efficiency and the public good. Evaluation of public opinions impact on governmental decisions.

POS 321 State and Local Government (3.0); 3 cr. Places subnational politics in its social, ideological, and federal setting. Concern is with both formal structure and political process. Focus on the individual's role.

POS 323 Minority Politics (3.0); 3 cr. An examination of the social, cultural and economic

factors which affect the political choices of minorities. Analysis of minorities political rights and actions.

POS 331 Judicial Politics (3.0); 3 cr. Examination of the principal actors in the legal system: police, lawyers, judges, and citizens. About half of the course is devoted to the study of judicial behavior in the courts and political and personal influences on judicial behavior.

POS 335 Classical Political Thought and Ideologies (3.0); 3 cr. Introduction to the origin and development of inquiry about human life and political association with particular reference to ancient and medieval philosophies.

POS 345 Ethics and Leadership (3.0); 3 cr. An examination of the nature of the relation between authority and moral duty in light of the long tradition of civil and religious statutes.

POS 350 Comparative Governments and Politics (3.0); 3 cr. A study of the basic approaches to comparative politics. Constitutional comparisons among the political systems of the United States, Great Britain, France, China, and Japan are highlighted.

POS 353 Governments of the Middle East (3.0); 3 cr. A comparative study of the governmental systems and political processes of Middle Eastern countries.

POS 382 Empirical Research Methods (3.0); 3 cr. An exposition of the scientific methods for conducting research, collecting and analyzing data, formulating hypotheses and propositions, and developing well-organized reports.
Prerequisite: ENL 213

POS 403 Arab-Israeli Conflict (3.0); 3 cr. A study of the Arab-Israeli conflict and its effects on the legal, economic, and political patterns of the region and the international community.

POS 421 Environmental Politics (3.0); 3 cr. Political, legal, and economic forces in environmental law and policy. Special emphasis on air and water pollution and on threat to public

and agricultural land. Environmental groups and their opponents.

POS 442 Constitutional Law (3.0); 3 cr. A study of the precepts and provisions of the Lebanese constitution and its contributions to policy, governance, and democracy.

POS 473 Government and Politics of Latin America (3.0); 3 cr. A study of the political systems of major Latin American countries in terms of their ideological, economic, social, and cultural variables.

POS 475 Government and Politics of South East Asia (3.0); 3 cr. A study of the political systems of major countries in South East Asia in terms of their ideological, economic, social, and cultural variables.

POS 477 Government and Politics of Africa (3.0); 3 cr. A study of the political systems of major African countries in terms of their ideological, economic, social, and cultural variables.

POS 479 Government and Politics of the United States (3.0); 3 cr. A study of the constitution of the American government and the determinants of the political process.

POS 480 Internship 1 cr. or POS 481 Internship 2 cr. or POS 482 Internship 3 cr. A supervised on-the-job working experience in International Affairs, Public Administration or Political Science. The internship will be done in cooperation with recognized international and national institutions and organizations from the public and private sector. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire new skills. A minimum of 120 hours of internship is required. A detailed report is to be submitted as a record of the work accomplished. *Prerequisite:* Senior standing.

POS 490 Senior Study - Special Topics in Political Science (3.0);3 cr.

The Degree of Master of Arts in Political Science

The department of Political Science offers graduate work leading to the Master of Art in Political Science. This Master's program is aimed at those students planning or embarking upon a career in public service and in related fields.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, Public Administration, International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. Students' undergraduate GPA of 3.0 minimum, work experience, letters of recommendation, motivation for a career and leadership are all taken into consideration. The Faculty may require the GRE exam for non-NDU students, and the following prerequisite courses may be required of non-major applicants: IAF 211, POS 201, POS 210, or equivalent by petition.

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements

IAF 601, PAD 604, POS 681

9 cr.

Major Electives

IAF 604, IAF 605, IAF 615, IAF 633, IAF 641, IAF 645, PAD 618, PAD 627, PAD 652, PAD 654, POS 611, POS 619, POS 651, POS 659

15 cr.

Free Electives

Option I: Thesis 6 cr. (POS 699) in addition to 30 cr. of course work.

Option II: Successful completion of 36 credits of course work culminating in comprehensive written and oral exams.

6 or 12 cr.

The Degree of Master of Arts in Political Science – NGOs Concentration

This program is designed to provide students with in-depth knowledge in the field of International and Civil Society Organizations and specifically NGOs and NPOs. The Master's program is aimed at those students planning or embarking upon a career in independent international, regional and local organizations and those that operate under the umbrella of the United Nations and its various agencies, as well as other major development actors in the MENA-region and Arab World and beyond.

Admission Requirements

To be eligible for admission to a graduate program, an applicant must hold a Bachelor degree or its equivalent from an accredited institution of higher education preceded by a secondary school certificate recognized by the Lebanese Ministry of Education as equivalent to the Lebanese Baccalaureate Part II. The minimum GPA must be 3.0/4.0.

Individual Faculties retain the right to request further requirements for admission to graduate programs such as the Graduate management Admission Test (GMAT) and the Graduate Record Examination (GRE). Other requirements may include recommendations from employer(s), auditions interviews, and samples of the student's work or personal statements. These other admission requirements will be stated in the letters of conditional admission authorized by the concerned Faculty.

For further details, applicants are requested to refer to the University catalog or enquire at the Admissions Office.

Graduation Requirements

In addition to the University graduate admission requirements, applicants should have a BA in Political Science – NGOs Concentration, Political Science, International Relations, Public Administration or any other BA or BS degree related to the scope and purpose of a NGOs vocation.

Degree Requirements (36 credits)

Core Requirements

These are 3 courses that introduce you to the basic theories and practices of international organizations and specialized agencies, public administration and scientific methods for conducting research in all later courses.

9 cr.

Major Electives

five courses of your choice from the NGO program will give you advanced knowledge and varied aspects of Civil Society and development, introduce you to tools for project, human resources and financial management, strategic planning, fundraising, monitoring and evaluation, as well as advocacy and social marketing, to mention only some of the topics.

15 cr.

Free Electives

Option I: you complete 6 elective credits and take the thesis course of 6 credits to conduct and write a research on a significant topic related to the area of your specialization.

Option II: you complete 12 elective credits and sit for comprehensive written and oral exams.

6 or 12 cr.

Graduate Courses: NGOs

NGO 601 Development Theory and Practice. (3.0); 3 cr. This course deals with topics and issues related to the current development challenges in the MENA-region in the context of the global order. Case studies of NGOs that are active in different areas will be selected as well as different examples of sustainable projects and programs.

NGO 602 Changing Role of Civil Society Organizations in the MENA-region (3.0); 3 cr. The focus of this course is on the changing role of Civil Society Organizations in the MENA-region based on existing and emerging NGO-networks. The concept of Civil Society is being examined and challenged.

NGO 603 NGO Management (3.0); 3 cr. A comprehensive overview on issues like good governance and accountability, empowerment, partnership, measuring performance & results as well as the contexts in which NGOs are operating. Issues like advocacy and service-delivery will be examined as well as the existing paradigms in development management.

NGO 604 Organization Development (3.0); 3 cr. This course will examine existing theoretical models around Organization Behavior in the Civil Society Sector. Organizational Assessment & Change, OD-interventions, Organizational Culture, Leadership, and principles and practices for Organizational Learning are other main components of the course.

NGO 605 Civil Society, NGOs, Networking and Advocacy (3.0); 3 cr. An examination of how NGOs are networking and campaigning for human rights and core social issues with the State, the public opinion, the private sector and decision-makers on different levels.

NGO 606 Civil Society, Welfare State and Social Policy (3.0); 3 cr. This course will critically analyze how social policy is being shaped and social services delivered by State, Private and NGO Actors in changing political and social contexts both globally and in the MENA-region.

NGO 607 Civil Society & Globalization (3.0); 3 cr. This course will critically study globalization, its causes and effects on emerging Civil Societies and NGOs.

NGO 608 Guiding Values & Principles in Civil Society (3.0); 3 cr. A critical examination

of the values, definitions and concepts and historical background to Civil Society in the West and how it's being applied in the Development sector.

NGO 609 NGOs and Human Resource Management (3.0); 3 cr. A comprehensive study on HRM within the framework of Civil Society. Emphasis on Best Operating Practices (BOP), benchmarking, teamwork, staff empowerment, self-appraisal, incentives & recognitions, purposeful internal and external communication.

NGO 610 Financial Management for NGOs (3.0); 3 cr. This course will treat financial management in non-profit organizations with case studies on how to prepare financial reports and the accounting systems in accordance with Generally Accepted Accounting Principles.

NGO 611 Advanced Course in Project Management for NGOs (3.0); 3 cr. A comprehensive view with case studies on how NGOs prepare, design, fund, manage, implement, monitor and report projects mainly in the development sector.

NGO 612 Project Cycle Management & Log-Frame Approach (PCM & LFA) (3.0); 3 cr. This course will critically examine how NGOs are using PCM and LFA in development and humanitarian assistance projects. The principles of PCM and LFA will be introduced as well as key aspects like the intervention logic, how to define objectively measurable and verifiable indicators, assumptions and risks. *Prerequisite:* NGO 611

NGO 613 Monitoring and Evaluation (3.0); 3 cr. A comprehensive overview how development projects are being monitored and evaluated by the main stakeholders. Other central topics include quantitative and qualitative methods on how to collect, store and analyze data and information as well as how to design the M/E-process as an integral part of the project management system. *Prerequisite:* NGO 611

NGO 614 Impact Assessment for Development (3.0); 3 cr. An overview of how performance, the outcomes and impact can be measured in the development sector and what kind of indicators are being used.

NGO 615 Strategic Planning for NGOs (3.0); 3 cr. This course will treat how NGOs can become more proactive, efficient, focused and committed in their service delivery. The main focus will be to assess current strengths, weaknesses, opportunities and threats and elaborate a strategic framework with the vision & mission statements, guiding values & principles and appropriate plans, programs and projects.

NGO 616 The Participatory Approach in Development Cooperation (3.0); 3 cr. This course will treat different kinds of participatory concepts and tools, such as Participatory Rural Appraisal (PRA), Participatory Learning & Action (PLA), Rapid Rural Appraisal (RRA) and how they are being applied in development cooperation as a mean to empower the poor and marginalized.

NGO 617 Participatory Poverty Assessment (PPA) (3.0); 3 cr. This course will critically examine how to conduct a Participatory Poverty Assessment with existing tools for analysis and change. Cases studies from mainly the Arab World will be used and examples of different studies of poverty assessment will be analyzed and compared. *Prerequisite:* NGO 616

NGO 618 Advanced course in Management of Social Institutions (3.0); 3 cr. This course will examine how to handle financial and human resources within the framework of social institutions in sectors like education, health care and social affairs. This course will build on the subjects, concepts and theoretical models analyzed in NGO 405.

NGO 619 Advanced Course in NGOs and Development (3.0); 3 cr. A comprehensive analysis with case studies on NGOs in the development process. Current practices on social services delivery will be critically examined as well as the right-based approach, in contrast to more traditional welfare and charity-oriented concepts.

NGO 620 Rural Development (3.0); 3 cr. A comprehensive analysis of rural development in order to make long-term improvements in rural living conditions with case studies on food security, safety and quality production of food products, access to markets, sustainable development, environmental concerns, the community based approach and current challenges and opportunities.

NGO 621 Advanced course on Gender & Development (3.0); 3 cr. This course will examine and analyze gender inequality and its correlation with poverty which results in acute failure of human capabilities. The capability approach with its systematization and theoritization, based on current case studies, is also a central part of the course.

NGO 622 NGOs and Micro-Credits (3.0); 3 cr. This course will treat the different kinds of micro credits schemes and income-generation activities that NGOs are involved in with different stake-holders. Special cases studies from the MENA-region will be analyzed and examined.

NGO 623 Advanced Course on Religion and Development (3.0); 3 cr. This course will analyze the social and developmental roles of secular and religious NGOs in the Middle East and beyond. The main focus will be on the praxis and the action carried out by Faith Based organizations and Religious Charities.

NGO 624 Islamic Charities and Faith Based Organizations in the MENA-perspective (3.0); 3 cr. This course will analyze the growing importance of Islamic charities as a global phenomenon in social service delivery and as emerging NGOs in the development sector in the MENA-region and beyond.

NGO 625 Christian Charities and Faith Based Organizations in the MENA-perspective (3.0); 3 cr. This course will analyze the way Christian Charities and NGOs are operating in the development sector and the challenges they are facing in the MENA-region and beyond and how they are organized.

NGO 626 Disaster Response & Emergency Preparedness (3.0); 3 cr. This course will study several cases of relief operations regarding man-made and humanitarian disasters utilizing the Humanitarian Charter and Minimum Standards in Disaster Response.

NGO 627 Corporate Social Responsibility in the MENA-region (CSR) (3.0); 3 cr. This course will analyze current models of CSR and how the principles can be applied in the Arab World and beyond. Some real life examples will be studied. Related concepts on Corporate Accountability, Governance & Citizenship as well as Social Responsibility & Ethical Investments, will be examined.

NGO 628 Social Marketing for Advocacy and Campaigning (3.0); 3 cr. This course will analyze how Civil Society Organizations are using social marketing techniques like advertising, branding, and segmentation in advocacy and campaigns. The course will build on the issues presented in NGO 409.

NGO 629 Fundraising Strategies and Proposal Writing for NGOs (3.0); 3 cr. This course will examine how NGOs can look for and approach potential donors and specifically how to prepare a written project proposal with all its components. *Prerequisite:* NGO 611

NGO 630 Managing Diversity in NGOs (3.0); 3 cr. An examination on the impact of confessional and cultural differences among staff and partners of NGOs, both local and

international, including different perceptions of leadership, delegation of tasks and responsibilities, and how to overcome and learn from the differences and develop a well-functioning and efficient work team.

NGO 690 Special Topics (3.0); 3 cr. Special topics in NGO Management.

NGO 691 (1.0); 1 cr. Internship in an NGO, UN agency or social institution.

NGO 692 (2.0); 2 cr. Internship in an NGO, UN agency or social institution.

NGO 693 (3.0); 3 cr. Internship in an NGO, UN agency or social institution.

Graduate Courses: Political Science

POS 611 The Middle East in International Politics (3.0); 3 cr. The seminar examines the place of the Middle Eastern countries in the world system and the roles played by outside powers in the Middle East.

POS 619 Political Communication (3.0); 3 cr. Diffusion of persuasive political communications through standard and created media. Examination of campaign techniques (i.e., research on issues and themes, electorate polling, thematic media approaches, campaign strategies) in management and administration.

POS 625 Policy Analysis and Choice (3.0); 3 cr. Survey of techniques for systematic analysis and evaluation of policy questions and programs, formulation of policy alternatives, cost-benefit analysis, and application of statistical computer models.

POS 651 Contemporary Middle East Governments and Political Processes (3.0); 3 cr. A comparative study of the governmental systems and political processes of the contemporary Middle Eastern countries and their role in world affairs. Topics include elites and political systems, democratization vs. fundamentalization, internal and external conflicts and their impact on nation-building, and constitutional law in the Arab states.

POS 659 Comparative Defense and Intelligence Studies (3.0); 3 cr. An evaluation of national defense policies of the major powers and the strategic roles of key regions in the

international military balance. Emphasis is directed to the study of major intelligence agencies and the role of intelligence in general (military, industrial, etc.) in national security.

POS 661 The European Integration (3.0); 3 cr. Topics covered include an exploration of the economic, political, social, demographic, constitutional, and legal patterns of the European integration process. The course traces the development of the European Union and evaluates its impact on member states, their economies, collective security, and international trade. A particular attention is given to the European Union's interaction with the other two major economic powers: The United States and Japan.

POS 681 Research Methods (3.0); 3 cr. The course introduces students to the scientific methods for conducting research, collecting data, analyzing these data, formulating hypotheses and propositions, and developing these propositions into coherent, well-organized reports.

POS 699 Thesis in Political Science (6.0); 6 cr. The thesis involves the application of research methods to a significant topic of current relevance to the spheres of Political Science. It requires the incorporation of the student's hypotheses, methods of testing, test results and conclusion in a sound report available to later researchers.

The Degree of Master of Arts in Political Science - Comparative Law Concentration

In the present world referred to as the “Global Village”, and in view of the international global system controlled to a great extent by non-governmental, multi-national corporations; where governments, peoples, businesses and others do interact on a daily basis through an enormity of contracts, regulations, laws and procedures, it has become necessary to stress in academic curricula the importance of Comparative Law. This specialty would help students of law understand the basic different legal systems applied in the world.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. Students’ undergraduate GPA of 3.0 minimum, work experience, letters of recommendation, motivation for a career and leadership are all taken into consideration. The Faculty may require the GRE exam for non-NDU students, and the following prerequisite courses may be required of non-major applicants: POS 201, IAF 401, POS 442.

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination;
or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements **9 cr.**
CPL 603, CPL 605, CPL 625.

Major-related Electives: choose 5 courses **15 cr.**
CPL 607, CPL 611, CPL 615, CPL 627, CPL 629, CPL 633, CPL 635, CPL 637, CPL 639, CPL 645, CPL 661, CPL 681, CPL 689, CPL 691

Free Electives **6 or 12 cr.**

Option I: thesis 6 cr. (CPL 699) in addition to 30 cr. Of course work.

Option II: Successful completion of 36 credits of course work culminating in comprehensive written and oral exams.

Graduate Courses: Comparative Law

CPL 603 Comparative Concepts and Issues of Justice (3.0); 3 cr. Issues relating to justice policies, perspectives, techniques, roles, institutional arrangements, management, issues of research and innovative patterns to prevent crises and delinquency

CPL 605 Current Issues in Human Rights and Global Justice (3.0); 3 cr. The first part of this course focuses on the dramatic changes in the creation and enforcement of international human rights law that have taken place since World War II. Notwithstanding serious challenges from a variety of sources, no government in the world publicly dissents from the acceptance of support for human rights. Students will examine the existing international human rights regime and explore the impact of the UN charter, the Universal Declaration, and various multilateral and regional human rights treaties and regimes on the behavior of nations today. Using cases from the M.E., Europe, US and international courts, the course will focus on ethical issues in human rights. Topics will include political repression, informed consent, and human rights. Law can be used to promote human rights

CPL 607 Comparative Law of Lawyering and the Legal Profession (3.0); 3 cr. Lawyers often suppose that the entire law of professional responsibility is contained in the profession's codes. However, "other" law (criminal law, tort law, procedural law, securities law, etc) plays an equally and sometimes more important role in regulating a lawyer's conduct. This three-credit course will focus on an examination of the ways in which ethics' codes and "other" laws work together to shape a lawyer's course of action in different contexts (business transactions, civil litigation, government representation criminal defense.) In addition, students will explore the contours of the profession.

CPL 611 Comparative Constitutional Law (3.0); 3 cr. The aim of this seminar is to develop an understanding of major international constitutional traditions. Students will focus in significant part upon the French, German and other constitutions, using the American Constitution as a comparative background. The course will cover both the citizens rights provisions and basic structures of government.

CPL 615 Comparative Administrative Law (3.0); 3 cr. Law governing the organization, powers, contracts procedures of the executive and administrative establishments.

CPL 625 Elements of World Law (3.0); 3 cr. This course will outline what law is and how it works among nations and explore the workings of leading international organizations. It examines practical and normative issues in international security, human rights, diplomacy, international finance, and international commerce. Students will be invited to explore a juridical landscape that is peculiarly different from the one they have grown accustomed to. The course will contrast the methods, the sources, and the institutions of the international legal system with the methods, the sources, and the institutions of major world legal systems making

CPL 627 Employment and Labor Law (3.0); 3 cr. This course examines the legal framework governing the relationship between employers and workers. It explores common and Roman laws principles, questions of occupational safety and health; employment discrimination of various sorts, and private sector unionization and collective bargaining. There will be discussion of the employees' selection of unions as collective bargaining representatives collective bargaining and regulation of the bargaining process, use of economic weapons such as strikes and boycotts, and the enforcement of collective bargaining agreements. A recurrent question is the choice of various "models" of employment relationships: freedom of contract, information and incentives, unionization, and direct regulation.

CPL 629 Comparative Substantive Criminal Law (3.0); 3 cr. Criminal liability, crimes against persons' property and society. Government sanctions of individual conduct as formulated by courts and legislation.

CPL 633 Comparative Juvenile Justice System (3.0); 3 cr. This seminar will consider how our legal systems should respond to crimes committed by minors. In particular, students will consider the appropriateness of treating minors differently from adults in the process of preventing, adjudicating, and imposing consequences for criminal behavior. Readings

on adolescent development and urban sociology will help discussions.

CPL 635 Comparative Media Law (3.0); 3 cr. This course will survey legal issues involving the traditional mass media primarily newspapers, broadcasting, and cable. Some emphasis on structural regulations will be applied.

CPL 637 Electronic Commerce Law (3.0); 3 cr. The seminar will focus on both the technology involved in electronics, commerce and the law surrounding the emerging field. This course begins with an overview of the history and infrastructure of the Internet, providing students with a working knowledge of the terminology and technology they will likely encounter working in this legal field. Additional background discussion will involve the concept of regulation of the Internet, global vs. national perspectives on the law of the Internet, and conceptions of sovereignty. Topics may include electronic contracts, digital signatures, cybnatories, the application of traditional UCC doctrines such as the mailbox rule and the statute of frauds to in e-commerce.

CPL 639 Comparative Insurance Law and Policy (3.0); 3 cr. This course will examine legal issues relating to first-party and third-party insurance, as well as limited aspects of domestic insurance regulation. Topics will include the special principles of construction applicable to insurance policies, particular problems arising under life and health policies

CPL 641 Comparative Business Law (3.0); 3 cr. Legal and ethical aspects of agency, partnership corporations, bankruptcy, antitrust, securities and other regulations and institutions.

CPL 643 Comparative Religious Law (3.0); 3 cr. An in-depth study of the relationship between religion and the law. The study focuses on Islamic, Christian and Jewish laws.

CPL 645 Comparative Commercial Arbitration: Domestic and International (3.0); 3 cr. Arbitration is a widespread and fast-growing method for resolving commercial disputes. This class examines the legal regime that governs commercial arbitration in both the domestic and international realms. The class begins with a brief overview of the legal regime

governing purely domestic arbitration, and then explores the different (but related) legal regimes that govern international commercial arbitration. Students will look at domestic and foreign statutes, national and international cases, treaties, and several arbitrate institutions.

CPL 661 Globalization and Sovereignty in International Intellectual Property Law (3.0); 3 cr. This course focuses upon the creation, negotiation, and implementation of multinational treaties and organizations aimed at correcting the economic inefficiencies of the international intellectual property laws. Through a rigorous reading of basic legal texts, scholarly comment, and various international working papers, students in this seminar will examine the possible barriers to harmonization efforts

CPL 681 Comparative Family Law (3.0); 3 cr. This course examines the law's regulation of the creation and dissolution of family relationships, and the legal rights and responsibilities that family members have in the context of their family status. These issues will be examined in both modern and historical contexts, with particular emphasis on marital relations. Topics to be covered include: polygamy, marriage and parenthood interracial marriage and adoption, same-sex marriage and parenthood, surrogate motherhood, the economic consequences of divorce, the dissolution of non-marital relationships, and the termination of parental rights.

CPL 689 Comparative Environmental Law (3.0); 3 cr. This course is designed to provide a broad overview of major national and international legislations with the environment, including a clean air, clean water and endangered species. Issues of institutional competence and legitimacy, such as the allocation of authority between international, national governments.

CPL 691 Case Studies: Criminal Law II (3.0); 3 cr. Studies important cases in criminal law and provides comparison for such cases in Roman and Common law.

CPL 699 Thesis in Comparative Law. (6.0); 6 cr.

DEPARTMENT OF PUBLIC ADMINISTRATION

The Department of Public Administration offers three programs leading to the degrees of Bachelor of Arts in Public Administration and in Criminal Justice, and Master of Arts in Public Administration.

Degree of Bachelor of Arts in Public Administration

The program is designed to equip students with comprehensive awareness of the discipline of Public Administration. The major courses will provide students with in-depth knowledge of the field, and will afford them a smooth and solid transition into the graduate studies as well as professional preparation in the following areas: public sector in various ministries of government, budgeting and the budget process, foreign service, international and regional organizations, multi-national corporations, banking institutions, and other enterprises.

Degree Requirements (105 credits)

| | |
|---|---------------|
| General Education Requirements | 27 cr. |
| CSC 201, ENL 213, ENL 230, ARB 211 or ARB 231, HIT 211, ENS 201 or NTR 201, REG 212 or REG 213, POS 201. | |
| Major Requirements | 45 cr. |
| IAF 401, PAD 201, PAD 241, PAD 302, PAD 312, PAD 332, PAD 421, PAD 422, PAD 461, PAD 462, PAD 490, POS 210, POS 345, POS 382, POS 442. | |
| Electives in PSPAD (27 cr.), 3 of which should be taken in Economics. | 27 cr. |
| From: ECN 200, ECN 211, ECN 212, PAD 322 or equivalent P.S: Students may choose to take 18 credits of those electives as a minor in other majors within the PSPAD Faculty. | |
| Free Electives | 6 cr. |
| Minor in PAD (for non-PAD Majors) | 18 cr. |
| Required: PAD 201, PAD 302, PAD 332 9 credits of electives from PAD courses | |

**Bachelor of Arts in Public Administration
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 201 | Intro. To Pol. Science | 3 cr. |
| IAF | 211 | Intro. To Intl. Relations | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| CSC | 201 | Computer & its Use | 3 cr. |
| POS | 210 | Gov. & Inst. Of Leb. | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| PAD | 201 | Intro. To Public Admin. | 3 cr. |
| POS | 240 | Law & Society | 3 cr. |
| HIT | 211 | Hist. Of Leb. & M.E. | 3 cr. |
| ECN | 212 | Principles of Macro - Economics | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|---------------|-------|
| — | — | GER | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--------------------------|-------|
| PAD | 241 | Admin. Law | 3 cr. |
| POS | 301 | Modern Pol. Ideologies | 3 cr. |
| POS | 350 | Comp. Governments & Pol. | 3 cr. |
| ENL | 230 | English in the Workplace | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 442 | Leb. Constitutional Law | 3 cr. |
| PAD | 302 | Elements of Pub. Policy | 3 cr. |
| POS | 353 | Gov. of the M.E. | 3 cr. |
| PAD | 332 | Admin. Beh. & Org. Theory | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |

Fall Semester III (15 credits)

| | | | |
|-----|-----|-----------------------|-------|
| POS | 345 | Ethics & Leadership | 3 cr. |
| IAF | 407 | Intl. & Regional Org. | 3 cr. |
| PAD | 312 | Regulatory Politics | 3 cr. |
| PAD | 322 | Intl. Pol. Economy | 3 cr. |
| — | — | Major Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|---------------------------------|-------|
| PAD | 321 | State & Local Gov. | 3 cr. |
| PAD | 421 | Fiscal & Budgetary Pol. Of Leb. | 3 cr. |
| PAD | 422 | Pol. Admin. Dev. | 3 cr. |
| PAD | 462 | Public Management | 3 cr. |
| PAD | 490 | Special Topics in P.A. | 3 cr. |
| — | — | Free Elective | 3 cr. |

Undergraduate Courses: Public Administration

PAD 201 Introduction to Public Administration (3.0); 3 cr. Role of the Administration in the Political process with an examination of the basic concepts of Bureaucracy. This course is a prerequisite to all PAD courses. *Prerequisite or Corequisite:* ENL 107.

PAD 241 Administrative Law (3.0); 3 cr. (Arabic/English) Studies law governing the organization, powers and contracts procedures of the executive and administrative establishments.

PAD 302 Elements of Public Policy (3.0); 3 cr. Studies consumer protection, natural resources, environmental protection in relation to science and technology.

PAD 312 Regulatory Politics (3.0); 3 cr. Studies the development and implementation of governmental policies regulating business activities, consumer and labor.

PAD 322 International Political Economy (3.0); 3 cr. Studies the contemporary issues in international political economy approaches, global welfare, international debts, equality, ecology.

PAD 332 Administration Behavior and Organization Theory (3.0); 3 cr. Examines the consideration of theories seeking to explain administrative behavior, evidence for and against those theories as applied to governments.

PAD 421 Fiscal and Budgetary Policy of Lebanon (3.0); 3 cr. A study of the budgetary process from a legal and economic perspective. Topics include, among others, the public debt, taxation, and financial policy.

PAD 422 Political Administration Development (3.0); 3 cr. Illustrates topics such as: Politics of social changes, comparative urbanization, political administrative development caused by various legal, social, religious and political factors.

PAD 435 Regional & Urban Planning (3.0); 3 cr. Examination of the theory, objectives, and methods of the planning process stressing economic distribution and ideological differences. *Optional:* case study.

PAD 461 Comparative Public Administration (3.0); 3 cr. Comparative public administration and theory. Bureaucracies and their input on the political development process.

PAD 462 Public Management (3.0); 3 cr. Analysis of advanced public management techniques. Problems of implementing techniques: Case study and research.

PAD 490 Senior Study - Special Topics in Public Administration (3.0); 3 cr. Special topics in Public Administration.

The Degree of Bachelor of Arts Public Administration - in Criminal Justice Concentration

Criminal Justice Program (CJS)

The program of Criminal Justice studies the interrelatedness of law enforcement, court services, correction, juvenile justice and private security within the criminal justice continuum.

Objectives

In its institutional thrust as an academic center of higher education, Notre Dame University, Louaize opted to join the on-going dialogue on man as a socio-political constituent. More than ever before, the World's progress is influenced by the protection and enhancement of human rights and security within the confines of a democratic political system based on equality and justice.

The program is designed to provide students with knowledge and awareness of the legal system in relation to police training, law enforcement, court services, correction institutions, criminal rehabilitation, crime prevention and general security of the citizen.

The program will equip students with broad knowledge and afford them a smooth and solid professional preparation in the areas of social security, and legal services.

**Degree Requirements
(105 credits)**

General University Requirements **27 cr.**
CSC 201, ENL 213, ENL 230, POS 201, ARB 212 or 231, REG 212 or 213,
ENS 201, NTR 201, HIT 211

Core Requirements **30 cr.**
CJS 200, CJS 201, CJS 222, CJS 250, CJS 315, SOL 313, POS 442, POS 240,
CJS 411, CJS 420

Major Requirements **30 cr.**
CJS 211, CJS 311, CJS 321, CJS 322, CJS 430, CJS 433, CJS 441, CJS 461,
CJS 487, CJS 490.

Major Electives: **12 cr.**
Choose 4 courses from: PAD 201, PAD 241, PAD 322, CJS 455, SOL 312,
PSL 201, IAF 402, POS 323, POS 240, POS 382, POS 421.

Free Electives **6 cr.**

**Bachelor of Arts in Public Administration - Criminal Justice Concentration
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

| | | | |
|-----|-----|---------------------------|-------|
| POS | 201 | Intro. to Pol. Science | 3 cr. |
| CJS | 200 | Hist. of Criminal Justice | 3 cr. |
| ENL | 213 | Sophomore Rhetoric | 3 cr. |
| CSC | 201 | Computer & its Use | 3 cr. |
| — | — | GER | 3 cr. |

Spring Semester I (15 Credits)

| | | | |
|-----|-----|--------------------------------|-------|
| CJS | 201 | Survey of Criminal Justice | 3 cr. |
| POS | 240 | Law & Society | 3 cr. |
| ENL | 230 | English in the Workplace (GER) | 3 cr. |
| CJS | 222 | Crime & Justice in Leb. | 3 cr. |
| — | — | Major Elective | 3 cr. |

Summer Session I (6 Credits)

| | | | |
|---|---|-----|-------|
| — | — | GER | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester II (15 Credits)

| | | | |
|-----|-----|--|-------|
| CJS | 211 | Crime & Justice in America | 3 cr. |
| CJS | 250 | Introd. To Private Security | 3 cr. |
| CJS | 311 | Pol. Violence: Strategy, Tac. & Prescription | 3 cr. |
| CJS | 315 | The Correctional Community | 3 cr. |
| SOL | 313 | Family Violence & Child Abuse | 3 cr. |

Spring Semester II (15 Credits)

| | | | |
|-----|-----|---------------------------------------|-------|
| CJS | 321 | Peace Officers Standards & Trg.: Adm. | 3 cr. |
| POS | 442 | Lebanese Const. Law | 3 cr. |
| CJS | 322 | Peace Officers Trg.: Statues | 3 cr. |
| CJS | 430 | Lebanese Criminal Law | 3 cr. |
| — | — | GER | 3 cr. |

Summer Session II (9 Credits)

| | | | |
|---|---|----------------|-------|
| — | — | Major Elective | 3 cr. |
| — | — | Free Elective | 3 cr. |
| — | — | GER | 3 cr. |

Fall Semester III (15 Credits)

| | | | |
|-----|-----|-------------------------------------|-------|
| CJS | 411 | Org. & Adm. In Criminal Justice | 3 cr. |
| CJS | 420 | Critical Issues in Law Enforcement | 3 cr. |
| CJS | 433 | Ethical Studies in Criminal Justice | 3 cr. |
| CJS | 441 | Probation & Parole | 3 cr. |
| — | — | Free Elective | 3 cr. |

Spring Semester III (15 Credits)

| | | | |
|-----|-----|------------------------------------|-------|
| CJS | 461 | Juvenile Justice Processes | 3 cr. |
| CJS | 487 | Research in Criminal Justice | 3 cr. |
| CJS | 490 | Special Topics in Criminal Justice | 3 cr. |
| — | — | Major Elective | 3 cr. |
| — | — | Major Elective | 3 cr. |

Undergraduate Courses: Criminal Justice

CJS 200 History of Criminal Justice (3.0); 3 cr. An introduction to the historical development of the Roman and Anglo-American criminal justice systems from their inception to the present time.

CJS 201 Survey of Criminal Justice (3.0); 3 cr. Overview concerning an understanding of the purpose of law enforcement, courts, penal institutions, probation, parole, and the role of the police officer in contemporary society.

CJS 211 Crime and Justice in America (MGM) (3.0); 3 cr. An overview of the components, structure, and functioning of the criminal justice system in America, including crime victims, law enforcement, courts, corrections, probation, parole, community corrections and juvenile justice

CJS 222 Crime and Justice in Lebanon (3.0); 3 cr. An overview of the components, structure, and functioning of the criminal justice system in Lebanon, including crime victims, law enforcement, courts, corrections, probation, parole, community corrections and juvenile justice. The majority of course time will document the failures of the system to provide equal justice to all people, especially women, children and people of culturally diverse backgrounds.

CJS 250 Introduction to Private Security (3.0); 3 cr. Introduces students to the principles of private security. Includes threat assessment, risk prevention, protection of assets, security systems, and a consideration of the issues, standards and goals of private security.

CJS 311 Political Violence: Strategy, Tactics and Prescriptions (3.0); 3cr. Examines the practice of political violence: the strategy and tactics adopted by those who engage in violence as well as those who eschew violence.

CJS 315 The Correctional Community (3.0); 3 cr. Critical examination of historical development and theories in the functions of correctional development, theories and institutions of punishment and social control. Analysis of contemporary issues: (1) the social systems of prisoners and guards; (2) institutional administration and legal issues in management; policy and strategies of intervention; (3) decision-making in sentencing and parole; and (4) treatment and custodial philosophies and

programs. Emphasis will be on a systemic evaluation of research literature.

CJS 321 Peace Officers Standards and Training: Administration (3.0); 3cr. Study of principles of law enforcement, career influences, stress/crisis intervention, crime prevention, community relations, court testimony, law enforcement communications, and cultural awareness.

CJS 322 Peace Officers Standards and Training: Status (3.0); 3 cr. Study of Lebanese Status relating Lebanon Criminal Code, law enforcement procedures relating to search, arrest, confessions, identification, and evidence, and of Lebanese Status relating to juvenile justice.

CJS 411 Organization and Administration in Criminal Justice (3.0); 3 cr. An overview of the principles of organization and administration in criminal justice. Emphasis is placed on current theories of organization as they relate to the needs of the criminal justice process.

CJS 420 Critical Issues in Law Enforcement (3.0); 3 cr. An overview of the broad spectrum of critical issues facing contemporary law enforcement officials in a free society. Areas relating to ethnic, tribal and confessional tension, civil disobedience, police conduct, unionization, civil disturbances and professionalism within law enforcement are discussed.

CJS 430 Criminal Law (3.0); 3 cr. Principles of criminal Liability, defenses criminal prosecution, elements of major crimes.
Prerequisite: CJS 222

CJS 431 Criminal Procedures (3.0); 3 cr. Development of the law of criminal procedures from arrest through post-trial proceedings.
Prerequisite: CJS 222

CJS 433 Ethical Studies in Criminal Justice (3.0); 3 cr. Development of ethical decisions relating to criminal justice issues.

CJS 441 Probation and Parole (3.0); 3 cr. Examines probation and parole as organizations, sentencing dispositions, and medicures of rehabilitation. The student conducts simulated interviews, pre-sentence investigations and prepares recommendations to the court.
Prerequisite: CJS 222

CJS 455 Private Security and the Criminal Justice Community (3.0); 3 cr. The powers and authority of private security personnel. Stresses requirements and restrictions on private security. Includes criminal and civil liabilities faced by private security personnel. *Prerequisite:* CJS 250

CJS 461 Juvenile Justice Processes (3.0);3 cr. Focuses on the development of justice for youth; the current conflicts within the system; its weaknesses and strengths. Primary emphasis will be on Lebanon's procedure.

CJS 487 Research in Criminal Justice (3.0); 3 cr. An introduction to the theoretical and

practical consideration of research in criminal justice. Examination of research designs, conceptualization and operationalization of research methods: qualitative and empirical methods of inquiry; analytical techniques, data collection and processing; interpretation of criminal justice research findings.

CJS 490 Seminar in Criminal Justice (3.0); 3 cr. Devoted to an exploration and analysis of special issues in the field of corrections, law enforcement, and the general areas of the administration of justice: includes detailed examinations of vital issues and emerging trends which promise to affect the future.

The Degree of Master of Arts in Public Administration

The department of Public Administration offers graduate work leading to the Master of Arts in Public Administration. This Master's program is aimed at those students planning or embarking upon a career in public service.

Admission Requirements

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, Public Administration, International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. Students' undergraduate GPA of 3.0 minimum, work experience, letters of recommendation, motivation for a career and leadership are all taken into consideration. The Faculty may require the GRE exam for non-NDU students, and the following prerequisite courses may be required of non-major applicants: PAD 201, POS 201, POS 210, or equivalent by petition

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements

IAF 601, PAD 604, POS 681.

9 cr.

Major Electives

IAF 641, IAF 645, INL 626, INL 636, PAD 602, PAD 612, PAD 618, PAD 620, PAD 622, PAD 627, PAD 629, PAD 632, PAD 652, PAD 654, POS 619, POS 625, POS 661

15 cr.

Free Electives

Option I: Thesis 6 cr. (PAD 699) in addition to 30 cr. of course work.

Option II: Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

6 or 12 cr.

Graduate Courses: Public Administration

PAD 602 Theories of Organization and the Public Sector (3.0); 3 cr. Examination of theoretical frameworks for studying public and private bureaucracies, with emphasis on ideologies, values, behavioral patterns and concepts of organization.

PAD 604 Public Administration (3.0); 3 cr. Theory and practice of program evaluation and evaluative research. Exploration of scope and limitations of current practice in evaluation, considering economic, political, social and administrative.

PAD 612 Comparative Development and Administration (3.0); 3 cr. Analysis of bureaucratic structures and function in Lebanon; industrialized and less developed countries, primarily at national level.

PAD 618 Public Budgeting (3.0); 3 cr. Theory and techniques of budgeting in governmental fiscal relations and the political processes that relate to decision making within the governmental organization.

PAD 620 Ethics and Public Values (3.0); 3 cr. Ethical obligations of the public administrator. Whether membership in a large governmental bureaucracy vitiates individual moral responsibility. To whom or what the public administrator has moral obligations : Elected officials, the law, hierarchical superiors, professional standards, agency ethos, regime values, universal moral standards.

PAD 622 Special Topics in Development and Planning (3.0); 3 cr. This seminar is organized around topics related to current research in the field of economic development and planning.

PAD 627 Political Development and Social Change (3.0); 3 cr. It examines social change in the light of the political structures governing a state. The focus is on various developmental models used to affect or explain social change and on the social environment that may either propel or constrain change.

PAD 629 Public Sector Labor Relations (3.0); 3 cr. Nature of labor relations processes and practices at all levels. Attention to the political variables that distinguish public sector from private sector labor relations.

PAD 632 Administrative Law (3.0); 3 cr. The law governing public administration. Attention

to legal reasoning, liability, due process, informality, and public access. The apparatus of administration.

PAD 642 The Political Economy of Public Policy (3.0); 3 cr. Nature and functions of public management and problems of choice within the constraints of law, politics, and resource scarcity. Concepts of public interest and public goods; problems related to revenue and taxation. Basic economic and mathematical tools as appropriate.

PAD 652 Organization Leadership (3.0); 3 cr. This course provides an in-depth examination of the leadership function within the work organization. Essential skills of effective leaders are diagnosed with respect to : Goal setting, written and oral presentation, behavioral flexibility. The behavioral dimension and impact of various skills are emphasized to explain the necessary leadership role of both technical and non-technical personnel in the work organization.

PAD 653 Comparative Public Policy (3.0); 3 cr. Comparative analysis of policy formation; process of social and economic policy decision making in selected industrial societies; interaction of institutions, ideas, and power in decisions concerning social welfare, economic planning, and related policy areas.

PAD 654 Bureaucracy and Public Management (3.0); 3 cr. Familiarity with the Lebanese government. Nature of bureaucracy in modern government with emphasis on Lebanon. Explanation of why government agencies behave as they do. Focus on real and imagined problems with bureaucratic rule, evaluation of commonly proposed solutions for these problems. Example from schools, armies, welfare bureaus, regulatory agencies and intelligence service among others.

PAD 699 Thesis or Project, in Public Administration (6.0); 6 cr. The thesis involves the application of research methods to a significant topic of current relevance to the spheres of Public Administration. The project involves the incorporation of the student's hypotheses, methods of testing, test results and conclusion in a sound, written report available to later researchers.

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