2000 - 2001
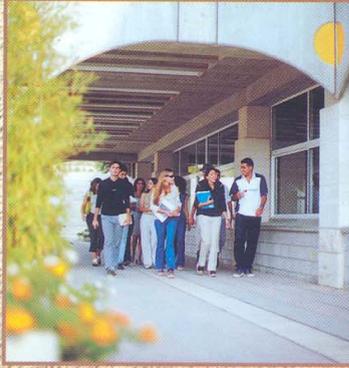
NDU
NOTRE DAME
UNIVERSITY
LOUAIZE
L E B A N O N

CATALOG

CATALOG
2000- 2001

Notice

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NOTRE DAME UNIVERSITY - LOUAIZE

Catalog
2000 – 2001

نشيد جامعة سيّدة اللويزة

للشاعر سعيد عقل

بتّدي الليل اختالي
يا عماراً من عالْ
لكِ من ماضٍ عِطرٌ
ضجَّ شمساً في البالْ

٢ ـ مع كُحيلاء الرمش	١ ـ يا غدَ النشء انتمّا
في خطى نجمٍ نمشي	بالعُلى عِلماً عِلما
كونُ، طِر معنّا، نُرمى	يدُهُ مُدَّت تُغري
باقةٌ عندَ العرشِ	لُعبة البَدع العظمى

٣ ـ أُمُّ، أنضجتِ الفكرا
شئتِنا نبتاً حرا
وغداً كلٌّ كلٌّ
أرززةٌ صيغَت دُرا

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THE PRESIDENT'S MESSAGE

As the new millennium approaches, Notre Dame University, with its main campus in Zouk Mosbeh and its North Lebanon campus in Barsa, is endeavouring with remarkable success to meet the needs of its community and the needs of the rising generations in Lebanon. The student body of NDU, the faculty members and the staff are harmonizing their efforts in order to provide university education of the highest standards, basing themselves on their principles and their competence.

Both learning and teaching at NDU imply an earnest desire to attend and take part in the classes, to master languages, to excel in scientific and mathematical problem-solving, and to develop one's propensity for learning. All of us at NDU are going forward with our mission, our philosophy, our curriculum and our university spirit. We are all members of one large university family, working together and learning from each other with worthy ambition, commitment and enthusiasm.

The moral and spiritual task of NDU is to build up a fully formed, all-round personality with a clear value system confirming a sense of human dignity along with the active role of a creative and analytical mind. The University believes that the intellectual abilities of a person can always be reinforced and supported with high moral standards and deep spiritual enrichment. This is what clarifies the mission and identity of NDU as an Institution of Higher Education playing an active role in Lebanon and the Middle East.

Part of our role is to address ourselves to basic questions related to higher education. Among these questions are the following: How can the University be ready for continuous development? To what extent can we cope with the advancement of science and technology? What is our role in finding solutions to the economic, social and political problems of our country and of the region?

It is our intention to stress the importance of research, particularly in the field of education, and to pursue this research in a way parallel to what is happening in the so-called developed countries. Our general strategy for the future must commence with plans for an education that will meet the immediate and subsequent spiritual, scientific and cultural requirements of our youth.

At this point, let us not forget that one of the foremost concerns of Pope John Paul II and of the Vatican is peace. Appalled by the suffering of helpless innocents, His Holiness has on several occasions appealed for an end to violence. In this the Pope and the Vatican show themselves in close touch with the sentiments of the common people everywhere, and so our university too must labour to break down all barriers and to ensure that those who rise to positions of authority are aware of their responsibilities to all, irrespective of race, nation or religion.

This concern for peace is the cause of a widespread movement among the world's communities calling for deeper knowledge and understanding of each other's religion, culture and problems. Once again we find the Pope and the Vatican expressing the popular desire by personal contact with leading representatives of the world's religions. This, we

are proud to say, has been the policy of Notre Dame University since its foundation and this is the policy it is resolved to pursue.

In order to face up this challenge, we at NDU commit ourselves to engaging wholeheartedly in our mission, playing our role with an ardent and enlightened spirit. We must and will prove that our three bodies, students, faculty and staff, can and will live up to their responsibilities by developing their skills and their attitudes.

UNIVERSITY DIRECTORY 2000 – 2001

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Reverend Elias Kmeid,
  First Deputy Superior General of the Maronite Order of the Holy Virgin Mary
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  General Assistant of the Maronite Order of the Holy Virgin Mary
Reverend Marwan El-Khoury,
  General Assistant of the Maronite Order of the Holy Virgin Mary
Reverend Salim El-Rayess,
  General Assistant of the Maronite Order of the Holy Virgin Mary
Reverend Semaan Bou Abdo,
  Director of the Office of Education of the Maronite Order of the Holy Virgin Mary
Reverend Pierre Ghsoub,
  General Director of Finance of the Maronite Order of the Holy Virgin Mary
Reverend Boutros Tarabay,
  President of Notre Dame University

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  Owner and Chairperson of the Board, Byblos Bank, Lebanon
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  President and General Manager, Bank Al-Madina
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  Chairperson of National Committees on Social Work
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  Artistic Painter and Interior Designer
Mrs. Vivian Demerjian,
Dr. Selim Ghostine,
  M.D., Neurologist, Sacré Cœur Hospital, Beirut
Dr. Fouad Metni,
  M.D., Heart Surgeon, Dallas Hospital, Houston, Texas, U.S.A.
Mr. Nabil Nassar,
  Board member: Phoenecia – InterContinental
Mr. Joseph Neeman,
  General Contractor and Businessman

UNIVERSITY ADMINISTRATION AND STAFF 2000-2001

Office of the President
Rev. Boutros Tarabay, *President*
Dr. George M. Eid, *Provost and Vice-President,* Academic Affairs
Dr. Ameen A. Rihani, *Vice-President*, Research and Development
Rev. Walid Moussa, *Director of Administration*
Rev. Samir Ghsoub, *Director of Finance*
Mr. Sabah Matar, *University Attorney*
Mr. Suheil Matar, *Presidential Counselor*
Rev. Marwan El-Khoury, *University Chaplain*
Rev. Salim El-Rajji, *University Chaplain*
Mr. Maroun Moubarak, *External Auditor*
Mrs. Joyce Chidiac Ghossain, *Administrative Assistant*

Office of Academic Affairs
Dr. George M. Eid, *Provost and Vice-President,* Academic Affairs
Miss Zeina Rahme, *Administrative Assistant*

Office of Research and Development
Dr. Ameen A. Rihani, *Vice-President*, Research and Development
Miss Nadine Jabbour, *Assistant to the Vice-President*, Research and Development

Office of Administration
Rev. Walid Moussa, *Director of Administration*
Mr. George Khoury*, Assistant Director*
Mrs. Viviane T. Abi Nader*, Administrative Assistant*
Information Desk
Miss Lucienne Keraoun
Purchasing Office
Mr. Charbel Hajj*, Purchasing Officer*
Miss Claire Habballah*, Secretary*
Maintenance Office
Mr. Gaby Saliba, *Maintenance Supervisor*
Mr. Abdo Bejjani
Mr. Milo Ghanem
Mr. Melhem Bou Chebel
Transportation Office
Mr. Hanna Keraoun
Mr. George Ouba
Mr. Mansour Abi Aoun
Security Office
Mr. Michel Chidiac*, Supervisor*
Services
Mrs. Wadiah Meghayar
Mrs. Dalal Abi Zeid
Mrs. Fatima Arafat
Mr. Marwan Arafat

Office of Finance
Rev. Samir Ghsoub, *Director of Finance*
Miss Patricia Madi*, Administrative Assistant*
Business Office
Mr. Elias Saadeh, *Director*
Mrs. Cynthia Sfeir, *Head Accountant*
Miss Andrée Kai, *Accountant*
Miss Marcelle Kossaifi, *Accountant*
Mr. Bechara Bechara, *Accountant - NLC*

Office of the Registrar
Mrs. Lea Eid, *Registrar*
Miss Mirna Nehme, *Associate Registrar*
Mrs. Roula Hakim, *Academic Records Officer*
Mr. Jean Malkoum, *Assistant to the Registrar's Office-NLC*
Mrs. Nisrine Merhej, *Secretary*

Office of Admissions
Miss Elham Hasham, *Director*
Miss Pascale Abi Rizk, *Admissions Officer*
Mrs. Karine Saadeh, *Administrative Assistant*
Miss Christine Rayess, *Administrative Assistant*

Student Affairs Office (SAO)
[1]Mr. Simon Abou Jaoude, *Director*
[2]Dr. Chahine Ghais, *Director*
Mrs. Reine K. Gunstone, *Administrative Assistant*
Mrs. Suzanne M. Dandan, *Assistant to the SAO-NLC*
Mr. Edward Bassil, *Clerk, Students' Mail Boxes*
Financial Aid Office
Mrs. May B. Dagher, *Financial Aid Officer*
Counseling Services
Dr. Marie Khoury, *Counselor*
Athletic Office
Mr. George Nader, *Head*
Activities Office
Mr. Elias Boutros, *Activities Officer*
Health Services
Dr. Elias Chemaly, *University Physician*
Mrs. Dolly K. Awad, *University Nurse*

The Library
Mrs. Leslie Alter Hage, *University Librarian*
Acquisitions Department
Miss Domingua Abboud, *Head, Acquisitions Department*
Miss Itab Chebli, *Acquisitions Assistant*
Mr. Joseph Mhanna, *Acquisitions Assistant*

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[1] Until January 2, 2001

[2] As of January 2, 2001

Cataloging Department
Miss Charla Chebl, *Cataloging Librarian*
Miss Mireille Kassis, *Cataloging Librarian*
Miss Antoinette Kattoura, *Cataloging Librarian*
Mrs. Cecilia El Khazen, *Cataloging Assistant*
Miss Maryanne Fayad, *Cataloging Assistant*
Mrs. Therese Jad, *Cataloging Assistant*
Miss Gisele Mrad, *Cataloging Assistant*
Circulation Services
Miss Dany Nasr, *Supervisor, Circulation Services*
Miss Elsie Kfoury, *Circulation Assistant*
Miss Rita Mehanna, *Circulation Assistant*
Mr. George Mghayar, *Circulation Assistant (night shift)*
Mr. Joseph Mhanna, *Circulation Assistant (night shift)*
Mr. Georges El Rayess, *Security Officer*
Mr. Raymond Ghossoub, *Security Officer*
Mr. Assaad Jabbour, *Security Officer (night shift)*
References Services
Mrs. Mona Barakat Shehadi, *Reference Librarian*
Mrs. Roula Harb, *Reference Librarian*
Serials Department
Mrs. Zeina Fahed, *Serials Assistant*
University Archives and Special Collections
Mr. Sami Salameh, *Head, University Archives and Special Collections*
North Lebanon Campus Library
Miss Carina Hawat, *Supervisor, Library-NLC*
Mrs. Suzanne Saad, *Circulation Assistant*

Division of Computing Services (DCS)
Mr. Fawzi Baroud, *Director*
Mr. Maroun Atallah, *Head, Academic Computer Center*
Mr. Joseph Abi Nassif, *Head, Administrative Computer Center*
Mr. Jihad Khoury, *Head, Geographic Information Science Center*
Mr. Khalil Serhan, *Head, Academic Computer Center, NDU-NLC*
Mr. Nazih Khalil, *System Analyst & Programmer*
Mr. Armen Balian, *System Analyst & Programmer*
Miss Sylvana Youssef, *System Analyst & Programmer*
Mr. Bachir Abou Halloun, *PC Specialist*
Miss Nathalie El-Kallasy, *Programmer*
Mr. André Hajjar, *Computer Laboratory Assistant*
Mr. Tarek Rahal, *Computer Laboratory Assistant*
Mr. Ziad Azzi, *Computer Laboratory Assistant*

Office of Public Relations (OPR)
Mr. Suheil Matar, *Director*
Dr. Abdo Kaii, *Coordinator, Public Affairs Conferences*
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Mr. Kenneth Mortimer, *Editor, English Publications*
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Rev. Khalil Rahme, *Director*

Faculty of Architecture, Art and Design (FAAD)
Dr. Nadim Karam, *Dean*
Miss Elite Feghali, *Administrative Assistant*
Department of Architecture
Dr. Farid Younes, C*hairperson*
Mrs. Joanna Sfeir, *Administrative Assistant*
Department of Design
Mr. Habib Melki, C*hairperson*
Mrs. Joanna Sfeir, *Administrative Assistant*
Photography Laboratory
Mrs. Liliane Haddad, *Dark Room Assistant*

Faculty of Business Administration and Economics (FBA&E)
Dr. Hratch Hadjetian, *Dean*
Mrs. Najat Azar, *Administrative Assistant*
Department of Business Administration
Mr. Antoine Khalil, *Chairperson*
Mrs. Carol Habchy, *Secretary*
Department of Hotel Management and Tourism
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Miss Nidal Tohme, *Secretary*
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Miss Rita Khalil, *Printing Officer*

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Mrs. Rita Orphali, *Secretary*
Department of Mechanical Engineering
Dr. Walid Assaf, *Chairperson*
Mrs. Sana Serhan, *Secretary*

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Mr. George Breidy, *Laboratory Assistant Instructor*
Miss Jinane Mounsef, *Laboratory Assistant*
Mrs. Sophia Ghanimeh Nissi, *Laboratory Assistant*
Mr. Maroun Eid, *Laboratory Technician*
Mr. Charles Abi Nader, *Laboratory Technician*
Printing Office
Miss Dunia Akiki, *Printing Officer*

Faculty of Humanities (FH)
Dr. Boulos Sarru, *Dean*
Mrs. Rose Mady, *Administrative Assistant*
Department of English, Translation and Education
Dr. Naji Oueijan, *Chairperson*
Mrs. Diane Sarkis, *Secretary*
Department of Mass Communication
Dr. Khalid El-Fakih, *Chairperson*
Mrs. Wassil Chemaly, *Secretary*
Department of Social and Behavioral Sciences
Dr. Doumit Salameh, *Chairperson*
Miss Nancy Khoury, *Secretary*
Radio/Television Studio
Mr. Antoine Azar, *Studio Instructor*
Mr. Anthony Gunstone, *Studio/Audio Associate*
Mr. Sam Lahoud, *RTS Assistant*
Miss Rania Saade, *RTS Assistant*
Printing Office
Miss Alice Eid, *Printing Officer*

Faculty of Natural and Applied Sciences (FN&AS)
Dr. Youssef K. El Hage, *Dean*
Mrs. Victoria Atallah, *Administrative Assistant*
Department of Computer Science
Dr. Fouad Chedid, *Chairperson*
Mrs. Rita Sawaya, *Secretary*
Department of Mathematics and Statistics
Dr. Jean Fares, *Chairperson*
Miss Nelly Geara, *Secretary*
Actuarial Science & Insurance Program
Dr. Claudia Freiji Bou Nassif, *Academic Advisor*
Department of Sciences
Dr. Layla Khalaf, *Chairperson*
Miss Danielle Abboud, *Secretary*
Freshman Science Program
Dr. Roger Hajjar, *Academic Advisor*
Science Laboratories
Mrs. Rita El-Hage, *Laboratory Instructor*
Mrs. Nada Maalouf, *Laboratory Instructor*
Miss Elizabeth Saliba, *Laboratory Assistant*

Keyboarding Center
Mrs. Amal Hajj, *Supervisor*
Printing Office
Miss Sanaa Youssef, *Printing Officer*

Faculty of Political Science, Public Administration and Diplomacy (FPSPAD)
Dr. Talal Tarabay, *Acting Dean*
Mrs. Nayla Basbous, *Administrative Assistant*
Faculty Departments
Dr. Akl Keyrouz, *Chairperson*

NDU - North Lebanon Campus
Dr. Michel Kraidy, *Director*
Fr. Jean Abou Chrouch, *Assistant Director of Finance*
Mr. Elias Rizk, *Assistant Director of Administration*
Miss Jeanette Kaddissi, *Administrative Assistant to the Director*
Mr. Khalil Serhan, Head, *Computer Center*
Mrs. Suzan Dandan, A*ssistant to the Student Affairs Office*
Mr. Jean Malkoun, *Assistant to the Registrar's Office*
Miss Carina Hawat, *Supervisor, North Lebanon Campus Library*
Mrs. Suzanne Saad, *Library Secretary*
Mr. Bechara Bechara, *Accountant*

Division of Continuing Education (DCE)
Mr. Fawzi Baroud, *Director*
Miss Fadia El-Hage, *Administrative Assistant*
Miss Carla Sfeir, *Administrative Assistant*

LIST OF FULL-TIME FACULTY MEMBERS 2000 - 2001

Professors

[1]*Eid, George M*., Ph.D., 1988, *Mathematics*, Polytechnic University, New York, USA

Keyrouz, Akl, Ph.D., 1969, *Political Science*, University of Utah, USA

[1]*Khoury, Shahwan,* Ph.D, 1965, *Electrical Engineering (Applied Space Science)*, Carnegie Institute of Technology, CMU, U.S.A.

[1]*Kraidy, Michel,* Ph.D., 1967, *Physics*, University of Western Ontario, Canada

Melki, Henry, Ph.D., 1972, *Linguistics*, Georgetown 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

[1]*Tarabay, Ajaj*, Ph.D., 1978, *Mathematics*, University of Utah, USA

Associate Professors

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

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

[1]*Eid, Assad*, Doctorate, 1986, *Applied Linguistics and TEFL,* Université Saint-Joseph, Lebanon

[1]*El-Hage, Youssef K.,* Ph.D., 1990, *Physics*, Technische Universität München, Germany

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

[1]*Fares, Jean*, Ph.D., 1988, *Mathematics*, University of Wisconsin-Madison, USA

Ghaleb, Mary, Ph.D., 1993, *Foreign Language Education*, University of Texas at Austin, USA.

[2]*Ghusayni, Badih,* Ph.D., 1986, *Mathematics,* Auburn University, USA

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

[1]*Helou, Fares A.,* Doctor of Engineering, 1991, *Civil Engineering,* Cleveland State University, USA

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

Karam, Nadim, Ph.D, 1989, *Architecture*, University of Tokyo, Japan.

Labaki, George, Doctorate*,* 1984, *Law and Public Administration,* Université de Paris-I, Pantheon, Sorbonne, France

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

[1]*Tarabay, Talal*, Doctorate, 1984, *Public International Law*, Université de Paris II, France.

[1]*Tarabay, Ajaj*, Ph.D., 1978, *Mathematics*, University of Utah, USA

Salameh, Doumit, Ph. D., 1988, *Philosophy*, St. Louis University, USA

Stucky, Katherine Ann, D.B.A., 1986, *Management,* The University of Memphis, USA

Assistant Professors

Abi-Serhal Kabrita, Colette, Ph.D., 1998, *NeuroBiology,* Northeastern University, Boston, USA

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

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

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

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[1] On tenure appointment

[2] Until February 5, 2001

Asmar, Ghazi, Ph.D., 1998, *Mechanical and Aerospace Engineering*, University of Missouri, Columbia, USA

Bahous, Jocelyne, Doctorate 1ᵉ̀ᵐᵉ Catégorie, 1998, *Philosophie et Sciences Humaines,* Université du Saint-Esprit Kaslik

Bahous, Victor, M.S., 1985, *Accounting,* Beirut University College, Lebanon

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, England

Deeb, Reem*,* Doctor of Music, 1999, *Voice Performance*, *History and Literature, Orgon and Church Music*, Indiana University, USA

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

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

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

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

El-Khalidi, Khaldoun*,* Doctorat, 1996, *Computer Science*, Université de Franche-Comté, Besançon, France

El Murr, Sami, Ph.D., 1986, *Electrical Engineering*, Mississippi State University, USA

Evans-Pritchard, Deirdre, Ph.D., 1990, *Tourism,* UCLA, USA

Georges, Marcel*,* Ph.D., 1989, *Civil Engineering,* Rensselaer Polytechnic Institute, New York, U.S.A.

Ghalayini, Bassem*,* Ph.D., 1995, *Mathematics*, University of California-Los Angeles, USA

Haddad, Robert*,* M.F.A., 1980, *Fine Arts,* University of Pennsylvania, USA

Hage, Tanos, Ph.D., 1995, *Horticulture,* Pennsylvania State University, USA

Hajjar, Roger, Ph.D., 1997, *Physics and Astronomy,* Université de Montréal, Canada

Hamad, Moustafa, Ph.D. 1995, *Electrical Engineering*, University of South Florida, USA

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

Hammoud, Mahmoud*,* Ph.D., 1992, *Mass Commmunication*, Ohio University-Athens, USA

Hanna, Mitri, Ph.D., *Public Policy*, 1995, George Mason University, USA

Harb, Atef, Ph.D., 1996, *Economics-Operations Research,* Ecole Polytechnique de Montreal, Canada

Jaalouk, Doris, Ph.D., 1997, *Cellular Biology,* University de Sherbrooke, Canada

Jahshan, Paul, Ph.D., 2000, American & Canadian Studies, The University of Nottingham, UK.

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

Kfouri, Carol*,* Doctorate 1ᵉ̀ʳᵉ Categorie, 1997, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik

Khair, Marie, Doctorat, 1996, *Computer Science*, Aristotle University of Thessaloniki, Greece

Keyrouz, Layla Khalaf, Ph.D., 1995, *Environmental Geology*, Westfälische Wilhelms Universität, Germany

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

Khoueiri, Roy, M.A., 1983, *Economics*, Syracuse University, USA
Maalouf, Hoda, Ph.D., 1998, *Computer Engineering,* University of London, England
Maalouf, Ramez, Ph.D., 1994, *Mathematics*, University of London, England
Matar, Suhail, C.A.P.E.S.,1969, *Arabic Language and Literature*, Université Libanaise, Lebanon
Naser, Ramzi, Ed.D., 1993, *Mathematics Education,* University of Massachusetts-Lowel, USA
Nassar, Elias, Ph.D., 1997, *Electrical Engineering*, Ohio State University, U.S.A.
Noun, Ghada, Doctorate, 1998, *Immunology,* University of Paris XI - Orsay, France
Saber, Rashid, Ph.D., 1998, *Marketing and Management*, California Coast University, USA
Sabieh, Christine, Doctorate 1ère Catégorie, 1998, *Philosophie et Sciences Humaines,* Université du Saint-Esprit Kaslik, Lebanon
Salem, Naim, Ph. D., 1992, *International Studies*, University of South Carolina, USA
Saliba, Holem, Ph.D., 1997, *Mathematics,* Moscow State University, Russia
Samra, Sami, Doctorate 1ère Categorie, 1999, *Philosophie et Sciences Humaines*, Saint Esprit-Kaslik, Lebanon.
[1]*Sayah, Edward*, Ph.D., 1988, *Public Administration & Economics*, University of North Texas, USA.
Semaan, Ingrid, Ph. D., 1978, *English Litterature*, University of Iowa, USA
Tabar, Paul, Ph.D. 1991, *Sociology*, Macquarie University, Australia
Yaacoub, Youssef, Ph.D., 1990, *Education,* Loyola University of Chicago, USA
Yahia, Najat, Ph.D., 1996, *Nutrition,* University of London, England
Yazigi, Amal, Ph.D., 1992, *Applied Linguistics*, Leicester University, England
Younes, Farid, Ph.D 1997, *Amenagement*, Université de Montréal, Quebec, Canada

Senior Lecturers

Baroud, Fawzi, M.S , 1985, *Systems Management*, Florida Institute of Technology, U.S.A
Blankenship, Sherry, M.A. 1987, *Product Design (Visual Communications),* North Carolina State University, USA
Barakat, Edgard, M.B.A., 1981, *Marketing,* University of Dayton, USA
El-Asmar, Jean Pierre, Laurea di Dottore, 1991, *Architecture*, Universita' Degli Studi Di Firenze, Italy.
El-Mourhabi, Joud, M.I.B.A., 1987, *Marketing*, United States International University, England
Frayha, Norma, M.B.A., 1982, *Accounting*, American University of Beirut, Lebanon
Hasham, Elham, M.B.A., 1994, Notre Dame University, *a.b.d.*, 1998, *Management*, USEK, Lebanon; *a.b.d.*, 1999, *Educational Management*, Leicester University, UK
Hovivian, Hrair, M.S., 1984, *Finance and Economics*, Beirut University College, Lebanon
Malek, Amal, M.A.T., 1993, M.A., *Teaching,* Fairleigh Dickinson University, New Jersey, USA
Melki, Habib, M.A., 1985, *Architecture,* Ball State University, USA
O'Donnell, Theresa, M.A., 1990, *Language & Literature*, Aberdeen University, Scotland
Rizk, Nouhad, D.E.S.S., 1984, *Computer Science*, Université de Nancy I, France

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[1] As of February 1, 2001

Zgheib, Youssef, M.B.A., 1985*, Hospitality Management,* American University of Beirut

Lecturers
Abou-Jaoude, Joseph, M.S., 1985, *Computer Science*, Kent State University, USA
Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology,* Université Libanaise, Lebanon
Akkari, Juliet, M.A., 1971, *TEFL*, American University of Beirut, Lebanon
Al-Hage, Gabriel*,* M. Urb.,1992, *Urbanism*, Université de Montréal, Québec, Canada
Bechara, André, B.F.A., 1989, *Environmental Design*, Parson School of Design, USA
Bou Nassif, Claudia Freiji, M.S., 1991, *Applied Statistics*, Ohio State University, USA
Choueiri, Linda, M.S., 2000, *Supervision & Administration in the Visual Arts*, Parsons, Bank Street College, New York, USA
El-Khoury, Jihad, M.S., 1992, *Civil Engineering*, Georgia Institute of Technology, USA
Fawkes, Anne, M.F.A., 1999, School of the Museum of Fine Arts, Boston and Tufts University, USA.
Gabriel, Nicolas*,* D.E.S., 1987, *Architecture*, Université Libanaise (I.N.B.A.), D.E.S.S.U., 2000, *Urbanism,* Université Libanaise
Hajjar, Theresa, M.P.H., 1994, *Biostatistics*, American University of Beirut, Lebanon
Hooven, Paul, M.F.A., 1999, *Computer Arts,* University of Massachussetts-Amherst, USA
Khoury, Mary*,* M.A., 1995, *English Language and Literature*, Université Libanaise, Lebanon
Kortbawi, John, Diploma, 1977, *Graphic Design*, London College of Printing, London
Samrani, Diana*,* M.A., 1990, *Education*, Andrews University of Michigan, USA

Visiting Lecturers
Brown, Stuart*,* Teaching Diploma, 1996, *Photography,* Guildford College, UK
Cheese, Chloe, MA, 1976, *Graphic Design,* Royal College of Art, UK
Pfeffer, Florian, Diplome, 1997, *Graphic Design*, Hochschule fur Kunste Bremen, Germany

Instructors
[1]***Abboud, Carole Assaf***, M.B.A, 1995, *Tourism and Marketing*, Notre Dame University, Lebanon
Daghfal, Graziella, Diploma, 1996, *Interior Design*, Notre Dame University, Lebanon
Hajj, Michel, M.A., 1997, *English Litterature*, Notre Dame University, Lebanon
Matta, Nadim, M.A., 1999, *Typographic Studies*, London College of Printing, UK.
Van Loan, Amira, M.A. 1995, *TESL*, The American University, Washington D.C., USA

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[1] As of February 1, 2001

FRIENDS OF NDU EXECUTIVE COMMITTEE

Hobeiter, George, *President*
Saber, Elie, *Vice-President*
Hajj, Chawki, *General Secretary*
George, Sfeir, *Treasurer*
Beshara, Hoda, *Counselor*
Doueiher, Toni, *Counselor*
Sfeir, Selma, *Counselor*

ALUMNI ASSOCIATION EXECUTIVE COMMITTEE

Murr, Michel, *President*
Rechdan, Cezar, *Vice-President*
Matta, Toufic, *General Secretary*
Boustany, Elie, *Treasurer*
Chrabieh, Maroun, *Chairperson, Club Committee*
Karam, Jihad, *Chairperson, Finance and Scholarship Committee*
El-Hajj, Fadia, *Chairperson, Disciplinary Committee*
Sfeir, Carla, *Chairperson, Publication Committee*
Assaf-Abboud, Carol, *Chairperson, Cultural Committee*

ACADEMIC CALENDAR 2000 - 2001

FALL SEMESTER 2000

Sep. 22	F.		Orientation for new students
Sep. 25-29	M – F	8:00a.m.-1:30p.m.	Registration period
Sep. 28	Th	3:00p.m.	Opening ceremony for the academic year 2000-2001
Oct. 2	M.	8:00 a.m.	Classes begin
Oct. 5-6	Th.-F	8:00a.m.-4:00p.m.	Late registration & Drop and Add (Classes are in session)
Oct. 16	M.	4:00p.m.	General Assembly (Election of the Faculty Representative)
Nov. 1	W.		All Saints Day: holiday
Nov. 22	W.		Independence Day: holiday
Nov. 28	T.	4:00p.m.	Deadline for Spring and Summer 2000 Incomplete Grades
Dec. 8 – 9	F.-Sat.	8:00 a.m.	Entrance examinations for Spring Semester 2001
Dec. 22	F.	8:00 p.m.	Christmas vacation begins
* Dec. 26 – 28	T – Th.		Al-Fitr: holidays
Jan. 2	T.	8:00 a.m.	Christmas vacation ends – Classes resume
Jan. 4	Th.	4:00 p.m.	Deadline for officially withdrawing from a course
Jan. 17	W.		Saint Anthony's Day: holiday
Jan. 23	T.	8:00 a.m.	Tuesday classes do not meet; Wednesday classes meet
Jan 24	W.	8:00 p.m.	End of classes
Jan 25 – 26	Th. – F.		Reading days
Jan. 27 – Feb. 3	Sat. – Sat.	7:45a.m.-8:45p.m.	Final Examinations Period

SPRING SEMESTER 2001

Feb. 5	M.	9:a.m.-12:00p.m.	Orientation for new students
Feb. 6 – 8	T. – Th.	8:00a.m.-4:00p.m.	Registration period
Feb. 9	F.		St. Maroun's Day: holiday
Feb. 12	M.	8:00a.m.	Classes begin
Feb 14	W.	8:00a.m.-4:00p.m.	Late registration & Drop and Add (Classes are in session)
* Mar. 5 – 7	M. – W.		Al-Adha: holiday
* Mar. 26	M.		Moslem New Year: holiday
* Apr. 4	W.		Ashoura: holiday
Apr. 11	W.	8:00 p.m.	Easter vacation begins
Apr. 23	M.	8:00 a.m.	Classes resume
Apr. 24	T.	4:00 p.m.	Deadline for Fall Semester 2000 Incomplete grades
May 1	T.		Labor's Day: holiday
May 6	Sun.		Martyr's Day: holiday

May 11	F.		Founder's Day: holiday
May 25	F.		Resistance & Liberation Day: holiday
May 29	T.	4:00p.m.	Deadline for officially withdrawing from a course
* Jun. 4	M.		Prophet's Birthday: holiday
Jun. 8 – 9	F. – Sat.	8:00 a.m.	Entrance examinations for Fall Semester 2001
Jun. 14	Th.	8:00 a.m.	Thursday classes do not meet; Monday classes meet
Jun. 15	F.	8:00 p.m.	End of classes
Jun. 18 – 20	M. – W.	7:45a.m.-8:45p.m.	Final examinations
Jun. 21	Th.		Reading day
Jun. 22 – 26	F – T	7:45a.m- 8:45p.m.	Final examinations

SUMMER SESSION 2001

Jul. 2 – 3	M. – T.		Registration period
Jul. 4	W.	7:30 a.m.	Classes begin
Jul. 5	Th.	7:30a.m.-1:30p.m.	Late registration & Drop and Add (Classes are in session)
Jul. 7	Sat.		Commencement: Conferring of degrees
Aug. 3	F.	1:30p.m.	Deadline for officially withdrawing from a course
Aug. 10 – 11	F. – Sat.	8:00 a.m.	Entrance Examinations for Fall Semester 2001
Aug. 14	T.	1:30 p.m.	Classes end
Aug. 15	W.		St. Mary's Day: holiday
Aug. 16 – 17	Th. – F.	7:30a.m.-7:30p.m.	Final examinations period

* Tentative dates

PROFILE: NOTRE DAME UNIVERSITY-LOUAIZE

LOCATION AND CLIMATE

Notre Dame University-Louaize 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 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.

Notre Dame University – 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 10-15 minute driving distance from Tripoli, Zgharta, Chekka, and other villages in Koura. The clean and quiet environment, and the moderate climate, adds to the charm and attraction of the campus.

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 the 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, the Order started in 1978 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).

During the past decade, 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, except in Engineering.

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, will accommodate the Administration, the Library 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 (capacity: 1000 persons), a theater (also for 1000 persons) and parking areas for approximately 1000 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 Méditerranée, Bary, *Italy.*
-Council of Independent Colleges, *Washington D.C., USA.*
-Fédération Internationale des Universités Catholiques, *Paris, France.*
-Federation of Arab Universities*, Amman, Jordan.*

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 SERVICE

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

The NDU Libraries consist of the recently inaugurated Mariam and Youssef Library at the Zouk Mosbeh Campus and the NLC Library at the Barsa Campus.

The Mariam and Youssef Library has the capacity to store a collection of nearly 250,000 items and study space for more than 300 simultaneous users. Future plans include implementing an Internet room for Library users and providing office space for master's students and independent researchers. The NLC Library is currently located in temporary space in the classrooms building.

Recognizing that the Library is central to fulfilling the mission of the University, the NDU Libraries are systematically building up their basic collection of general references as well as keeping up-to date with the latest publications relevant to the major programs of study. The Libraries collections consist of materials in print, manuscript, electronic, audio, visual, cartographic, and other appropriate formats.

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 University is currently collaborating with the Center for the Preservation of Ancient Religious Texts (CPART) at Brigham Young University (an American institution), to digitally scan the manuscripts in order to preserve these materials and provide access to this unique collection to scholars around the world.

The Libraries are open to NDU faculty, staff, students and alumni as well as to students and faculty of other universities.

Libraries Mission Statement

The Notre Dame University-Louaize Libraries affirm and support the mission of the University to promote universally accepted human, ethical and spiritual values and enhance intellectual inquiry, critical thinking and intensify awareness of human integrity and solidarity.

The Libraries fulfill this mission by:
- Collecting and preserving records of human knowledge and creativity in print, manuscript, electronic, audio, visual, and other appropriate formats.
- Providing access to these records by organizing, cataloging, and indexing them.
- Aiding and instructing users of the libraries in a responsive and courteous manner in the retrieval of these records and those held in libraries and databases around the world.
- Providing access to records not owned by the libraries through licensing agreements with information providers, and interlibrary loan agreements with national and international libraries and organizations.
- Aiding and instructing users of the libraries to be "information literate" independent scholars who can find, assess and use information resources efficiently and effectively.
- Developing ongoing cooperative relationships with University Faculty members to enhance teaching and learning.
- Sharing Notre Dame University-Louaize's resources with the world community of scholars.

DIVISION OF COMPUTING SERVICES

Objectives
The purpose of the University Computing Services is 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. 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.

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. In addition, two Novell networks are mainly used for various applications.

All Faculties have active computers running various platforms such as PC/Windows, PC/Linux, Sun/Solaris, and IBM/AIX. Unix workstations and Windows NT 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 400 computers on the network. The local area networks are attached to a redundant, collapsed ATM backbone that enables access among all systems on the campus, including the Server facilities operated by the Administrative computer Center.

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.

VISUAL ARTS STUDIOS

Art studios are designed to meet the various needs of both the Interior and Graphic Design Programs. The studios are furnished with professional drafting tables and are appropriately equipped to provide support to all Design and Fine Art courses. In addition, students now have access to the MacPower 9500 Computer Laboratory and the latest interior design software "Architrion" to facilitate their performance. Furthermore, a special classroom for Art History and other lectures is available for projection purposes.

PHOTOGRAPHY LABORATORY

The Photography Laboratory is a place where Visual Arts students and Mass Communication 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.

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 opprotunities 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. Also 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, which is kept in the studio's archives.

PROJECTION ROOM

This is the latest addition to the academic support facilities to be used by mass communication students. This room is also designed to be used by students of film and television. A state-of-the-art TV projector is available, along with the necessary equipment for a perfect viewing setting. This room will be also used by NDU's Ciné Club.

THEATER

Present facilities are adequate for the housing of the activities of theatre arts students. The University, nonetheless, is in the process of constructing state-of-the-art theatre environment.

ENGLISH LEARNING RESOURCE CENTER (ELRC)

The ELRC provides support by supplying the student with remedial sessions additional to English courses. These sessions are meant to reinforce vocabulary, grammar and listening competence. For those students in sophomore courses, the ELRC is well equipped with self-instructional material in the form of audio-visual resources, learning packages, self-instructional kits, programmed textbooks, and computer software.

The student is free to work independently or under guidance of the laboratory supervisor and assistant who are always ready to help. The ELRC is also equipped with a small reading room from which students may check out periodicals, novels and selected articles useful in research paper preparation. Film showings and media study are also conducted. Translation and Interpretership students may also practice simultaneous translation in the fully-equipped language laboratory.

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.

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

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 has been developed to meet the goal of this philosophy by providing needy and qualified students with financial aid regardless of color, race, gender, religion, nationality, or political affiliation.

The following is a brief description of the 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 fill in regularly a time sheet of their working hours which will be signed by the Supervisor and the Financial Aid Officer. A student may cover up to 40% of his/her tuition fees through WSG.

The student's working schedule should not conflict with his/her class schedule. The rate per hour for students on WSG is 2.75% of the actual rate per credit of each major.

Students eligible for work-study grant will have the added benefit of developing their working skills as well as gaining a deeper sense of personal responsibility and accomplishment from the working experience.

Eligibility: To be eligible for work-study grant, a student must:
- demonstrate financial need.
- have completed 12 credits at NDU.
- 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 accepted for 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 registers for less than 12 credits during each semester and less than 9 credits during the last semester at NDU.
- he/she receives a scholarship from another institution exceeding 50% of tuition.
- he/she does not take up the job assigned by the Financial Aid Officer.
- he/she does not abide by the discipline and rules 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. This application should be submitted before the official deadline.

Upon submitting the application for work-study-grant with complete adequate documentation, the student should schedule a first interview with the Financial Aid Officer and a second interview with the Financial Aid Committee, who will decide upon the application.

Date and deadlines for obtaining and submitting applications will be posted each semester, and scheduled in the academic year calendar.

For more information, consult the Financial Aid Officer.

Student Employment: Student employment is only for students who prove to have special skills which cannot be found in any of the students receiving work-study grant. Student Employment is given to full-time students, at the request of Deans of Faculties for academic reasons, and will cover only one semester. The working hours and the hour rate will be determined by the Financial Aid Committee.

GRANTS

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 decided by the Financial Aid Committee upon the recommendation of the Director of Student Affairs.

Sibling Grant♦: A sibling grant is given when two or more brothers and/or sisters are registered at NDU with proven financial need. 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 fall below 12.
- 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 conditions, the other(s) can benefit from this grant which consists of a 25% tuition reduction.

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* Sibling Grant might be subject to change during the Academic Year 2000 – 2001.

Applications are taken from and submitted to the Financial Aid Office during the first 30 days of Fall and Spring Semesters.

UNDERGRADUATE SCHOLARSHIP

Full-time students who have completed 12 credits at NDU and who demonstrate academic excellence by maintaining a high cumulative GPA (3.4/4.0 and above) may apply for scholarship and benefit from the program according to the following scale:

Cumulative GPA from 3.40/4.0 to 3.65/4.0 ---------- 25% Scholarship
Cumulative GPA from 3.66/4.0 to 3.79/4.0 ---------- 50% Scholarship
Cumulative GPA from 3.8/4.0 to 4.0/4.0   ---------- 75% Scholarship

Students must apply at the Office of the Dean of the Faculty during the first 30 days of the Fall and Spring semesters.

STUDENT HOUSING

The University is in the process of establishing residence halls for male and female students. Until these facilities are completed, the Student Affairs Office offers help for the accommodation of students in nearby housing facilities.

COUNSELING SERVICES

Special counseling facilities are provided for individual students with extreme confidentiality. The staff includes a specialized counselor. Counseling is available at regularly scheduled times or by appointment.

HEALTH SERVICES

All students are entitled to free health service on campus. A physician and a registered nurse are available; they provide emergency care for illness or injury occurring on campus and refer more serious cases to appropriate specialists. Every NDU student is covered in case of accidents by an insurance policy effective 24 hours per day and seven days a week.

DISABILITY SERVICES

The purpose of disability services has been designed to integrate disabled students (physical, visual, auditive, speech, learning,…) into the University community by providing assistance.
Request for disability services is asked to be done preferably before enrollment, in order to assess the needs and coordinate appropriate accommodations.

ATHLETIC SERVICES

Athletics programs are designed to give students the opportunity to fully develop their physical potential and engage in sport for fun, for health or for competition.

The following sports are practiced by students, faculty and staff: Basketball, Volleyball, Judo, Taekwando, Physical Fitness, Body Building, Tennis, Swimming, Soccer, Handball, Table Tennis, Chess, etc.

NDU's athletic teams are trained by qualified instructors and have been participating in local, regional and overseas tournaments bringing honorable credits to themselves and to the University.

CLUBS AND SOCIETIES

One way for students to get involved in Student Life at NDU is through Student Clubs. For a club to be recognized, its purpose must be consistent with the stated objectives and goals of the University and must have a full-time faculty member as an advisor.

The following student clubs have been established to provide recreational and co-curricular activities: International Relations Club, Advertising Club, Debate Club, Marketing Club, Green Campus Club, Music Club, Architecture Club, International Business Management Club, Engineering Club, Social Club, Banking & Finance Society, Radio-TV Club, Hospitality & Tourism Club, Camping Club, Civil Democratic Group Club, Translation & Interpretership Club, Public Relations Club, Astronomy Club, M.A.D.S. Club, Drama Club, First Aid Club, Natural & Applied Sciences Academic Club, Traditions Club, Cultural Club, Art Club, Qannoubine Club, and Fishermen Club.
The clubs' activities are coordinated and supervised by the Student Activities Office.

STUDENT CABINET

The student cabinet 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 students become aware of their rights and obligations. Bearing in mind that the responsibilities of the Student Cabinet toward the Administration, Faculty and student body is imperative.

PUBLIC RELATIONS

OFFICE OF PUBLIC RELATIONS

This office assists the University administration, faculty and staff in promoting NDU's academic programs and extra-curricular activities. It is also responsible for the University public conferences, serves as the liaison with the press and the media, and manages the publication of NDU Spirit.

PLACEMENT OFFICE

This office helps students define career aspirations and goals, find jobs, write Résumés, and establish contacts with prospective employers.

DIVISION OF CONTINUING EDUCATION

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

It provides self-development courses in modern languages, business administration, computer applications, hotel management skills, and various artistic topics and opportunities for professional development. The DCE offers certificates to candidates who follow a number of specified courses in a particular field.

The courses given by the DCE are usually in the late afternoon (between 4 and 9 o'clock) and they continue for a period of six weeks.

UNDERGRADUATE ADMISSION

Applications for Admission to NDU are available at the Admissions Office. Upon request, applications may be mailed to applicants. Applicants must complete the application form and return it with a non-refundable fee of 100,000 L.L. to the Admissions Office either by hand or by mail.

The following documents must be submitted with each application form:
-A secondary school record,
-A photocopy of the identity card or passport or Family status (اخراج قيد) ,
-Two recent passport-size photos,
-Certified copies of all official certificates or diplomas,
-Scores of exams taken outside NDU (TOEFL, EEE, SAT I & II).

Documents must be originals. All documents submitted to complete a file become the property of NDU. Whether accepted or rejected, applicants may not claim any of the documents. A letter of acceptance is valid for one calendar year only.

The following table identifies the deadlines for submitting applications for each semester:

Deadline	Semester
Last Friday of May	Fall Semester (Session1)
Last Friday of July	Fall Semester (Session2)
Last Friday of November	Spring Semester

FRESHMAN REQUIREMENTS

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

((يسمح للطالب بمتابعة الدراسة حسب المنهج الاجنبي والانتساب الى صف الفرشمن

Non- Lebanese applicants to the Freshman Class should hold a secondary school certificate recognized by the Lebanese Ministry of Education. Applicants to the Freshman Class are required to take the Sat I & SAT II prior to registration as required by the Lebanese Ministry of Education and for equivalence purposes. These tests will be specified according to either the Freshman Sciences or Arts stream. In addition to the SAT I & SAT II, applicants must sit for the TOEFL, EEE or EET.

SOPHOMORE REQUIREMENTS

Applicants must hold the Lebanese Baccalaureate, as determined by the Lebanese Ministry of Education, to be eligible for the Sophomore or First year Class. The nature of the Lebanese Baccalaureate (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.

TRANSFER REQUIREMENTS

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. The conditions for acceptance are specified by the University Admissions Committee. Whether for the Freshman or Sophomore Class or First year class, transfer applicants are offered admission in accordance to the respective conditions of NDU.

Transfer acceptance letters are valid for one calendar year. If a student desires to enroll during the following semester, a reinstatement will be implemented.

REQUIREMENTS FOR INTERNATIONAL STUDENTS

International applicants must complete the application form and submit it, with the appropriate documents, to the Office of Admissions. They may be returned by hand or by mail.

ENGLISH ENTRANCE EXAMS

For admission, NDU recognizes the following English tests:

- EET (English Entrance Test): structured and administered by NDU; a minimum score of 500 is required; no placement test is required; valid for one calendar year.
- TOEFL (Test of English as Foreign Language): administered by Amideast; a minimum score of 550 is required; NDU placement test required; valid for two calendar years.
- EEE (English Entrance Examination): structured and administered by the American University of Beirut (AUB); a minimum score of 500 is required; NDU placement test is required; valid for one calendar year.

FACULTY REQUIREMENTS

Note: Students are advised to apply to the Faculty that corresponds to their respective Lebanese Baccalaureate Program of Study.

Faculty of Humanities: Applicants who pass the Lebanese Baccalaureate (Literature and Humanities) with an overall average of at least 14/20 are required to take only EET, TOEFL or EEE. Otherwise, the following tests are required:
> -EET, TOEFL, or EEE

> *And* - Basic Mathematics test   *Or*   - SAT I and SAT II.

For applicants for the degree of Bachelor of Arts in Physical Education and Sport, the above mentioned tests are required in addition to a Medical test and a Fitness test.

Applicants for the degrees of:
- Bachelor of Arts in Translation and Interpretership
- Bachelor of Arts in Journalism
- Bachelor of Arts in Radio/TV
- Bachelor of Arts in Arabic Language and Literature

are also required to take the Arabic Entrance Test (AET). Translation and Interpretership applicants are also required to take the French Entrance Test (FET).

Faculty of Engineering: Applicants who pass the Lebanese Baccalaureate (General Sciences, Life Sciences) with an overall average of at least 14/20 are required to take only the EET, TOEFL or EEE. All other applicants are required to take the following tests:

	-EET, TOEFL, or EEE		
And	- Mathematics test.		
	- Physics test.		
	- Chemistry test	*Or*	- SAT I and SAT II.

Faculty of Business Administration and Economics*:* Applicants who pass the Lebanese Baccalaureate (Social Sciences and Economics) with an overall average of at least 14/20 are required to take only the EET, TOEFL or EEE. All other applicants are required to take the following tests:

	-EET, TOEFL, or EEE		
And	- Mathematics test.	*Or*	- SAT I and SAT II.

Faculty of Natural and Applied Sciences: Applicants must pass the Lebanese Baccalaureate (General Sciences).   All applicants with an overall average of at least 14/20 are required to take only one of the following acknowledged English Entrance Exam, the EET, TOEFL or EEE.   All other applicants are required to take in addition to the acknowledged English Entrance Exam, a Math test with (or without). Science test as follows:

Math test: Either the
- Mathematics Entrance Exam (MEE) (Administered by NDU)
Or the   - SAT I and SAT II.

Science test: Possibly Science tests in two of the following topics   (Biology, Chemistry, or Physics)

The determination of the required topics depends on the respective majors chosen by the student according to the following table:

Test Required…… Major Chosen	Physics	Chemistry	Biology
Mathematics or Computer Science*	No	No	No
Physics (BS in Physics)	Yes	Yes	No
Biology (BS in Biology)	No	Yes	Yes
Environmental Sciences (BS in Env. Sc.)	No	Yes	Yes
Medical Laboratory Technology (BS in Med. Lab.Tech.)	No	Yes	Yes

* BS in Computer Science, in Computer Science (CIS), in Actuarial Science & Insurance, in Mathematics, in Applied Statistics, in Business Computing, and in Geographic Information Systems.

Based upon the result of the Mathematics Entrance Exam, an applicant for any major proposed by the Faculty of Natural and Applied Sciences whose grade in that exam does not reflect the level of mathematical proficiency required for unconditional admission into Sophomore courses may still be granted conditional admission provided that his/her grade meets the Faculty requirements.

Faculty of Architecture, Art and Design: Applicants who pass the Lebanese Baccalaureate (Literature and Humanities) with an overall average of at least 14/20 are required to take only the EET, TOEFL or EEE. All other applicants are required to take the following tests:
EET, TOEFL, or EEE

And   - Mathematics test   *Or*   - SAT I and SAT II.

In addition, students applying to the Department of Architecture must sit for a Drawing Test.

Faculty of Political Science, Public Administration and Diplomacy: Applicants who pass the Lebanese Baccalaureate (Social Sciences and Economics) with an overall average of at least 14/20 are required to take the EET, TOEFL, or EEE. Otherwise, the following tests are required:
EET, TOEFL, or EEE

And   - Basic Mathematics test   *Or*   - SAT I and SAT II.

PLACEMENT IN ENGLISH COURSES

Applicants who score less than 400 on the EET are not admitted to NDU. Otherwise, placement will be according to the table below:

EET	Score Interval	Placement: English Course
	400-499	ENL 002 (Remedial)
	500-599	ENL 105 *or ENL 109* (Preparatory)
	600-699	ENL 107* or ENL 110 *(Preparatory)
	700 or more	ENL 221* or ENL 222* (Sophomore)

Applicants who score less than 500 on the TOEFL are not admitted to NDU. Otherwise, placement is according to the table below:

TOEFL	Score Interval	Placement: English Course
	500-549	ENL 002 (*Remedial*)
	550-599	ENL 105 or ENL 107(*Preparatory*, relevant to placement test). Or ENL 109 or ENL 110 (*Preparatory*, relevant to placement test.
	600 or more	ENL 221 or ENL 222 (*Sophomore*) No placement test.

*ENL 105 (Preparatory Course for Students in FH, FBA&E, FAAD, FPSPA)
ENL 107 (Preparatory Course for Students in FH, FBA&E, FAAD, FPSPA)
ENL 222 (Sophomore Course for Students in FH, FBA&E, FAAD, FPSPA)

*ENL 109 (Preparatory Course for Students in FN&AS and FE)
ENL 110 (Preparatory Course for Students in FN&AS and FE)
ENL 221 (Sophomore Course for Students in FN&AS and FE)

Upon successful completion of the remedial courses, students are allowed to pursue their regular academic course of specialization, *along with the appropriate English preparatory courses*, as indicated in their letters of acceptance.

Applicants who do not meet the minimum requirements may apply for admission to the English Program offered by the Division of Continuing Education at NDU.

Based upon the result of the Mathematics Entrance Test or that of SAT I and/or SAT II (as per the Faculty criteria), applicants who do not meet the required level of proficiency in mathematics will be placed in one of the following courses:

MAT 111 (Preparatory Course)
MAT 112 (Preparatory Course)

Those applicants who are placed in MAT 111 must successfully complete MAT 112 before taking first year courses in mathematics, engineering or any related field as determined by the concerned engineering department. The minimum passing grade for the preparatory courses in mathematics is C^+.

Those applicants who are placed in MAT 001, must successfully complete it before taking MAT 100 and MAT 105. Those applicants who are placed in MAT 100 must successfully complete it before taking MAT 105. Those who are placed in MAT 105 must successfully complete it before taking sophomore level courses in mathematics or any related field as determined by the mathematics department.

In this case, one, two or three remedial preparatory courses are to be taken by the student before beginning Sophomore courses. The required possible sequence of remedial/ preparatory courses are:

- MAT 100 (remedial course), which must be successfully completed before taking two preparatory courses, MAT 111 and MAT 112, successively.

Or   - MAT 111, which must be successfully completed before taking MAT 112.

Or   - MAT 112 without any additional preparatory course.

The required possible sequence of remedial / preparatory courses for applicants of Business Computing are:

MAT 001, MAT 100, MAT 105
Or   - MAT 100, MAT 105
Or   - MAT 105.

The table below reflects the required possible sequences of remedial / preparatory courses that the Faculty of Natural and Applied Sciences is providing for the various faculties at NDU:

Faculty	Majors	Possible Set of Remedial Courses
Natural and Applied Sciences	CS – Business Computing	MAT 001, 100, 105; or MAT 100, 105; or MAT 105
Natural and Applied Sciences	Other majors	MAT 100, 111, 112;or MAT 111, 112;or MAT 112
Engineering	All majors	MAT 111, 112; or MAT 112
Humanities	All majors requiring a Math test	MAT 001
Business Administration And Economics	All majors	MAT 001, 100, 105;or MAT 100, 105;or MAT 105
Political Science, Public Administration and Diplomacy	All majors	MAT 001
Architecture, Art and Design	Architecture	MAT 100, 111, 112; or MAT 111, 112; or MAT 112
Architecture, Art and Design	Art and Design	MAT 001, 100; or MAT 100

GRADUATE ADMISSION

NDU offers a Masters Degree in the following areas:

Faculty of Humanities:
- Master of Arts (MA) in English Language & Literature
- Master of Arts (MA) in Applied Linguistics and TEFL
- Master of Arts (MA) in Arabic Language & Literature
- Master of Arts (MA) in Media Studies
  * Advertising
  * Electronic Media
  * Journalism
- Master of Arts (MA) in Translation & Interpretership

Faculty of Business Administration & Economics:
- Masters of Business Administration (MBA)

Faculty of Natural & Applied Sciences:
- Master of Science (MS) in Computer Science

Faculty of Architecture, Art & Design:
- Master of Arts (MA) in Architecture
- Master of Arts (MA) in Fine Arts
- Master of Arts (MA) in Music
- Master of Arts (MA) in Design

(The above Programs are under development)

Faculty of Political Science, Public Administration, and Diplomacy:
- Master of Arts (MA) in Political Science
- Master of Arts (MA) in International Law
- Master of Arts (MA) in Public Administration
- Master of Arts (MA) in International Affairs & Diplomacy
- Master of Arts (MA) in Comparative Law

To be eligible for admission to graduate studies, an applicant must hold a Bachelor's degree from a recognized institution based on a secondary school certificate recognized by the Lebanese Ministry of Higher Education.

Applicants must complete an application for graduate studies and submit it to the Admissions Office according to the deadlines specified for the Undergraduate Admission.

The non-refundable application fee is L.L. 150,000.

Applicants should submit the following documents along with their applications:
- An official certified copy of their Bachelor's degree from the Ministry of Higher Education,
- An official transcript of their undergraduate record,

- Three letters of recommendation,
- Evidence of a recognized secondary school certificate,
- A photocopy of identity card or passport,
- Two recent photographs,
- Other reference letters as required.

All documents become part of the permanent records of the University and will not be returned.
When the application and all required documents are available, the application will be reviewed by the concerned Faculty and acted upon by the University Admission Committee. The decision of the committee will be communicated to the applicant in writing by the Director of Admissions.

Applicants from institutions where English is not the language of instruction will be required to sit for the NDU English Entrance Test (EET) and score 600 or sit for the TOEFL and score 600.

In addition to the requirements specified above, some departments may require other examinations such as the GRE or GMAT for admission.

TYPES OF ADMISSION TO GRADUATE STUDIES

Graduate programs at NDU are designed to prepare students as researchers, teachers and professional practitioners of applied disciplines. These programs are offered on a selective basis to applicants who have shown distinct academic ability. Applicants for graduate studies may be considered for admission in one of the following three categories:

Regular Admission
An applicant qualifies for this category if he/she holds a Bachelor degree from NDU or an equivalent degree from another recognized institution of higher education with a minimum cumulative GPA of 3.0/4.0. The Bachelor's degree must be based on a recognized secondary school certificate.

Admission on Probation
Applicants whose cumulative undergraduate GPA ranges between 2.7/4.0 and 2.99/4.0 may be considered for admission on probation. In order to be removed from probational status, students must maintain the same level of academic excellence expected of all graduate students. These applicants may be required to take up to 9 credit hours of undergraduate courses, in the areas of identified deficiencies, and earn a minimum GPA of 3.0/4.0 in order to continue their graduate studies.

Prospective Applicant
Applicants holding a Bachelor degree in an area other than the intended major will be required to take undergraduate courses as the University Admission Committee may deem appropriate. The credits earned for these courses will not be counted toward the credits required for the Masters degree. This degree might not receive the appropriate equivalence by the Ministry of Higher Education.

TRANSFER CREDITS

Upon admission, applicants for graduate work may be granted a maximum of nine transfer credits from previous work taken at another accredited institution of higher education. Two conditions however need to be fulfilled:
- A minimum grade of B in each course,
- The transferred courses correspond to the NDU course requirements assigned for the major requested.

REVALIDATION

A course will not be counted toward degree requirements if it has been completed more than 5 years prior to registration in the Masters degree. Such a course can be, however, revalidated if the applicant passes a comprehensive course exam set by the concerned department.

READMISSION TO THE GRADUATE PROGRAM

If previously admitted to a graduate program, a student who has failed to maintain enrollment in two subsequent semesters but wishes to resume graduate work, may do so subject to the current academic rules and regulations.

UNDERGRADUATE REGISTRATION

REGISTRATION PROCESS

A registration guide is distributed to every undergraduate before the period assigned for registration. Students are advised to read this section of the catalog and the registration guide carefully because they contain basic information concerning registration.

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 arrangements 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 should 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 an Academic Advisor: 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.

The selection of courses is undertaken by the registrant himself/herself in consultation with an academic advisor. In principle, registration *in absentia* or by proxy is not permitted. Continuing students should check the course requirements as prescribed for every major, and compare it 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 schedule.

Registration of courses: As the final step for registration students shall proceed to the computer operator to input their course selection into the computer.

No student is considered registered unless he/she proceeds with these three basic steps.

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 to their advisors. Students should follow the steps indicated in the registration guide.

Deferred Payment: Registrants who, for some reason, are unable to pay their fees in full, should discuss their problem with the Director of Administration and Finance at least two weeks before registration. The Director's decision is communicated to the student and to the Business Office in writing.

It is to be noted that an arrangement for the payment of fees does not absolve the student from passing through the Business Office.

IMPORTANT REGISTRATION ISSUES

Special Instructions: The following instructions are to be noted.

Students ***must*** successfully complete Freshman class requirements before taking Sophomore courses. NDU Freshman students upon completion of the Freshman program should declare major.
Students who fail a required course ***must*** repeat that course the next time it is offered.
The prerequisite(s) of a course ***must*** be fulfilled prior to registering for that course.
Substitution courses should be approved by the concerned Faculty prior to registration.

Course Load: A student can register for a maximum of 16 credits/semester and 9 credits/Summer session. Students in Engineering, Architecture and Visual Arts can register (per semester) for the number of credits indicated in their suggested program. *Exceptions can be made in accordance with the concerned Faculties policies.* Graduating students may take up to 19 credits during their last semester.

Registration for Tutorial Courses: Tutorial courses are provided, upon petition, to senior students who for legitimate reasons were unable to take these courses.

Course Changes after Registration: Changes in registration are permitted under the following provisions:

To add or drop a course, or change a section, students must obtain the proper form from the Registrar's Office and get the signature of the advisor and the Dean. The late registration period is the ultimate deadline for changes in courses and sections.
If the students drop courses officially within the late registration period, no grades are recorded. Students who officially withdraw after Drop/Add period will receive *"W"* as a grade.
All course changes that increase the tuition obligation of the students will be noted by the Business Office and the added fee will be collected before the change is completed; changes decreasing the tuition obligation will be subject to the Refund Policy.

DISCLOSURE OF STUDENTS RECORDS

The University does not disclose academic records and information concerning a student without his/her prior consent. Exceptions to this principle are made only in compliance with judicial orders or an emergency involving health or safety.

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.

National Social Security Fund (NSSF). Membership of Lebanese students in the NSSF is mandatory by law. Thus students are urged to have with them at registration the following items:

-A completed social security application distributed before the time of registration.
-The NSSF number if previously registered.
-The NSSF number of either parent if registered with the NSSF through father or mother.
-Family record (اخراج قيد عائلي), for students who do not benefit from the NSSF.
-Payment of 30% of the minimum salary for a year's social security coverage.

Tuition

Tuition/Credit Hour (Engineering or Architecture)	L.L.	360,000
Tuition /Credit Hour (All Others)	L.L.	305,000
Tuition /Credit Hour (Auditing)	L.L.	75% of credit tuition

Fees

Admission Application	L.L.	100,000
Entrance Examination	L.L.	150,000
Late Registration	L.L.	100,000
Petition	L.L.	5,000
Change of Major	L.L.	100,000
Make-up Final Examination Fee/Course	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
Student Association and Year Book	L.L.	110,000

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, 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.
- Tuition is not refunded in the 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.

Registration of Courses: This is the final step for registration. Students proceed to the Computer operator to input their course selection.

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.

COURSE CHANGES AFTER REGISTRATION

Changes in registration are permitted under the following provisions:

To add or drop a course, or change a section, the student must obtain the proper form from the Registrar's Office and get the signature of the advisor, the Business Office and the Registrar's Office. The late registration period is the ultimate deadline for changes in courses and sections.

If the students drop courses officially within the late registration period, no grades are recorded. Students who officially withdraw after Drop/Add period will receive a "W".

All course changes that increase the tuition obligation of the students will be noted by the Business Office and the added fee will be collected before the change is completed; changes decreasing the tuition obligation will be subject to the Refund Policy.

Substitution in required courses may be made under special circumstances before final registration for the course upon the recommendation of the Faculty concerned. All changes must be made at the beginning of the semester prior to graduation.

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.	405,000
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/Course	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
Student Association and Year Book	L.L.	110,000

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, 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.
Tuition is not refunded in the Summer session.

ACADEMIC RULES AND REGULATIONS (Undergraduate)

CLASSIFICATION OF STUDENTS

Student attending NDU that are not considered as being at the university level yet are classified as follows:

Class	Number of Credits Completed
Remedial Class	
Remedial	0 Credit
Freshman Class	
Lower Freshman	0 Credit
Upper Freshman	16 Credits

Undergraduate students are classified as follows:

Class	Number of Credits Completed (On Courses of 200 Level or Above)
Sophomore Class	
Lower Sophomore	0 Credit
Upper Sophomore	15 Credits
Junior Class	
Lower Junior	30 Credits
Upper Junior	45 Credits
Senior Class	
Lower Senior	60 Credits
Upper Senior	75 Credits

However, the number of credits required for classification of students in Engineering, Architecture and Visual Arts are as set out in their respective suggested programs.

SPECIAL AND PART-TIME STUDENTS

The category of 'Special' is strictly restricted to those students who are not working for a degree. Undergraduate students who are registerred for less than 12 credits are considered part-time students.

FULL-TIME CREDIT LOAD

All undergraduate students admitted on a full-time basis must register for a minimum load of 12 credits per semester. The maximum load per semester is 16 credits and 9 credits for the Summer session. Engineering, Architecture and Visual Arts students will have to carry the normal load as set in their respective suggested program, and according to the policies adopted by the concerned Faculties.

AUDITORS

The University extends the privilege of auditing courses to anyone interested in furthering his/her education. Auditors should secure the permission of the chairperson of the department concerned. Auditors, however, do not get grades for the courses they audit nor are they provided with University ID cards. Applicants wishing to audit any course(s) should fulfill the university admission requirements.

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

For legitimate reasons a student is allowed to absent himself/herself for a maximum of six periods for classes that meet on M.W.F., four periods for classes that meet on T.Th. and summer sessions. Any violation of this attendance policy will result in a failing grade for the course.

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 case 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.

RECORD BOOKS

The record book, including the final grades and the student graded final examination papers, shall be in the office of the concerned chairperson within 48 hours of the scheduled date of the final examination of that course. Consequently, within 24 hours and upon the approval of the faculty Dean, the chairperson shall forward the approved final grades to the Registrar's office.

GRADING SYSTEM

The University uses the following grading system:

Grade	Description	Quality Points	Interval
A^+	Outstanding	4.0	100 - 97
A	Excellent	4.0	96 - 93
A^-	Very Good	3.7	92 - 89
B^+	Good	3.3	88 - 85
B	Good	3.0	84 - 80
B^-	Good	2.7	79 - 77
C^+	Satisfactory	2.3	76 - 73
C	Average	2.0	72 - 70
C^-	Passing, but weak	1.7	69 - 66
D^+	Passing, but poor	1.3	65 - 63
D	Passing, but unsatisfactory	1.0	62 - 60
F	Failure	0.0	59 - 0
UW	Unofficial Withdrawal	0.0	
W	Official Withdrawal		
I	Incomplete		
P	Passing		
PR	Progress, Re-enroll	This grade is used to reflect progress on continuing research efforts for the senior design project until it is completed, at which time the appropriate letter grade is entered on the transcripts.	
R	Repeat		
U	Audit		
I	This grade is given by the instructor only when there is a 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 *F*. Degree candidates should be aware that an *I* grade received during the last semester in any of the courses required for graduation will result in the postponement of graduation.

W   The grade *W* indicates withdrawal without academic penalty. This grade is issued by the Registrar's office only to students filling an official course withdrawal form by the scheduled deadline. The grade *W* is not counted in the grade point average and may not be changed to any other grade under any circumstances.

UW   The grade *UW* 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 *F* grade in the grade point average.

U   The *U* grade is assigned to auditing courses only.

GRADE-POINT-AVERAGE

The grade point average (GPA) is the ratio of the sum of the course credits times the quality points divided by the number of the credit hours attempted as shown below. Courses with a grade of *W, P, R,U* or *I* are not counted in computing the cumulative GPA. The same applies to all transfer courses.

Course Number	Grade Earned	Credit Hours Attempted		Quality Points		Total Quality Points
ARB 211	B	3	×	3	=	9
BAD 425	A	4	×	4	=	16
HUT 305	D	3	×	1	=	3
CSC 201	F	3	×	0	=	0
CSC 200	C	1	×	2	=	2
		14				30

The overall Grade Point Average of the five courses would be

Semester GPA = 30/14 = 2.14 that is equivalent to a grade of *C*.

REPEATING COURSES

Students should repeat required courses for which they get a grade of *F, UW,* or they do not get the required passing grade set by the concerned department, next time they are offered. For repeated courses, only the higher grade is considered in the cumulative GPA; the other grades are kept in students' records. A course may be repeated only twice unless otherwise specified by a Faculty.

ADD AND DROP

After registration, students are assigned a period for adding and/or dropping courses.

WITHDRAWAL FROM COURSES

After the date for dropping and/or adding courses, students are allowed to withdraw from courses until the end of the 12th week as of the beginning of the semester. A grade of "*W*" will be inscribed on their records. No withdrawal is allowed beyond this period.

For Summer session, students are allowed to withdraw from courses within the first 28 teaching days.

ACADEMIC RECOGNITION

Students who have obtained a cumulative GPA of 3.50/4.0 and higher at the end of a semester are placed on the Dean's List, provided they are enrolled on a full-time basis with no failure or withdrawal or incomplete grades.

GRADUATION WITH DISTINCTION

An undergraduate student with high academic achievement will graduate with:
- *Cum Laude* (with Honors), if the cumulative GPA falls between 3.20/4.0 and 3.49/4.0.
- *Magna Cum Laude* (with Distinction), if the cumulative GPA falls between 3.50/4.0 and 3.79/4.0
- *Summa Cum Laude* (with High Distinction), if the cumulative GPA is 3.80/4.0 or above.

Such distinctions appear on the student's transcript and degree.

PLACEMENT ON ACADEMIC PROBATION

An undergraduate student will be placed on probation if at the end of a semester his/her cumulative GPA falls below 2.0/4.0.

Beginning Freshman and Sophomore students will not be placed on academic probation at the end of their first semester at the University unless they fail in two or more three credit courses.

The semester academic load of a student on probation should not be allowed to take more than 12 or 13 credit hours. During a summer session, the load should not exceed 6 credits or the number specified by the Faculty concerned. Additional Faculty requirements may apply.

REMOVAL OF PROBATION

Probation is removed at the end of a semester if the student attains a cumulative GPA of no less than 2.0/4.0.

DISMISSAL FROM THE UNIVERSITY

A student will be dismissed from the University for any one of the following reasons:
- Failure to remove probation by the end of the second semester following placement on probation.
- Disciplinary action taken by the University Disciplinary and Student Affairs Committee.

READMISSION OF DISMISSED STUDENTS

Applications for readmission for students who have been dismissed will be normally considered only after the lapse of a semester and only when the student provides evidence of probable success after readmission or of unusual circumstances which previously prevented adequate performance. Readmission is not automatic. The University Admission Committee reviews each application and makes a decision on acceptance or rejection.

Students that have been dismissed from the university may be considered for readmission after the lapse of a semester. If such students spend at least one semester at another accredited institution of higher education, then the courses completed with a grade of *B* or better will be transferable to NDU on condition that neither the transfer grade nor the failing grade at NDU will be included in their cumulative GPA.

However, the courses will count towards graduation. If students are readmitted after a lapse of two academic years, they must follow the academic program published in the most recent catalog.

Readmitted students are placed on probation and are given two semesters to raise their cumulative GPA to 2.0/4.0, provided that the first semester GPA is 2.2/4.0 or above. If they fail to do so, they will be dismissed again and will not be eligible for readmission to the University at a later date.

CHANGING A MAJOR

The change of major should depend on the Basis of Admission, in addition to the following rules:

1- One change of major is allowed during the student's entire residency at Notre Dame University.
2- To change from one major to another, a student must keep in mind that changes may result in modifying requirements to such an extent that the date of graduation might be delayed.
3- Students must fulfill the admission requirements for the new major and should follow the latest program. Additional restriction/requirements may be set by the concerned Faculty.

DROPPING A MAJOR

Unless a department authorizes exceptions, a student will be asked to drop 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 core courses or technical electives as applicable.
- If he/she fails to pass a required course after having repeated it twice.
- Other reasons set by the concerned Faculty.

RESIDENCY REQUIREMENTS

Students who join the Faculties of Business Administration and Economics, Humanities, or Natural and Applied Sciences at the Freshman or Sophomore level are required to meet the minimum residency requirements of eight and six semesters, respectively. The maximum residency permitted is eleven semesters for those who begin as Freshman and nine for those beginning as Sophomores.

For Engineering students, the minimum and maximum residency requirements are ten and fourteen semesters: respectively, for Architecture students twelve and sixteen semesters.

In this context, two Summer sessions are equivalent to one academic semester.

GRADUATION REQUIREMENTS

Students are urged to check for themselves and with their advisors that all graduation requirements are fulfilled. Such requirements cover: remedial and preparatory courses, prerequisites, general education requirements, core and major requirements, electives, grades and averages, residence, and settlement of financial dues. However, the official clearance for graduation shall be made by the Registrar's Office at least one semester prior to graduation.

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.

MORAL CHARACTER

Students are expected to conduct themselves in accordance with the University regulations and show evidence of sound moral character. Any case of plagiarism, cheating, disrespect for oneself and others, undignified wearing, dishonesty and unfairness in attitude and behavior will lead to penalties ranging from failure in an assignment, an examination or a course, to probation, suspension or dismissal.

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 Design		
IND	-	Interior Design
GRD	-	Graphic Design
VIA	-	Visual Arts
Department of Architecture		
PHO	-	Photography
RCT	-	Architecture

Faculty of Business Administration and Economics		
Department of Business Administration		
ACO	-	Accounting
BAD	-	Business Administration
BAF	-	Banking and Finance
ECN	-	Economics
MRK	-	Marketing
Department of Hotel Management and Tourism		
HTM	-	Hotel Management and Tourism

Faculty of Engineering		
Department of Civil 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		
EDU	-	Education
ENL	-	English
FRC	-	French
GEM	-	German
INT	-	Interpretership
ITL	-	Italian
LIR	-	Literature
PES	-	Physical Education and Sport
SPN	-	Spanish
TRA	-	Translation

Department of Mass Communication		
ADM	-	Advertising and Marketing
COA	-	Communication
JOUR	-	Journalism
THA	-	Theater
Department of Social and Behavioral Sciences		
ARB	-	Arabic
HUT	-	Humanities
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
MAT	-	Mathematics
OPR	-	Operations Research
STA	-	Statistics
Department of Sciences		
AST	-	Astronomy
BIO	-	Biology
CHM	-	Chemistry
ENS	-	Environmental Science
GEO	-	Geology
HEA	-	Health
MLT	-	Medical Laboratory Technology
NTR	-	Nutrition
PHS	-	Physics

Faculty of Political, Public Administration and Diplomacy		
Department of International Affairs and Diplomacy		
IAF	-	Internaltion Affairs and Diplomacy
INL	-	International Law
Departments of Public Administration		
CJS	-	Criminal Law
PAD	-	Public Administration
Department of Political Science		
AMS	-	American Study
EMS	-	Euro-Mediterranean Study
CPL	-	Comparative Law
HIT	-	History
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.

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 Litterature, 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

A student entering NDU as Freshman is required to complete a minimum of 30 credits. He/she has to follow either the Arts or the Science Program.

The Freshman Arts Program includes courses from the following areas:

Humanities	minimum of 12 credits
Social Sciences	minimum of 6 credits
Natural Sciences	minimum of 3 credits
Electives	minimum of 9 credits

The Freshman Science Program includes courses from the following areas:

Mathematics	minimum of 6 credits
Natural Sciences	minimum of 9 credits
Humanities	minimum of 9 credits
Electives	minimum of 6 credits

According to the regulations of the Lebanese Ministry of Education, Youth and Sport, the above mentioned areas include the following subjects:

Humanities
        Language, Literature and Philosophy
Social Sciences
        Psychology, Sociology, Anthropology, Economics, History, Geography, Public
        Administration and Business Administration
Natural Sciences
        Biology, Chemistry, Physics, Geology and Astronomy
Mathematics
Electives
          Arts (a maximum of 3 credits)
            Graphic Arts, Music and Theater
          or any course in the above mentioned subjects

FRESHMAN SCIENCE PROGRAM

First Semester   :   CHM 101, CHM 171, ENL 109, MAT 111, PHS 101, PHL 101.
Second Semester   :   CHM 102, CHM 172, ENL 110, MAT 112, PHS 102, PHS 171
                         or PHS 172.

Freshmen science students wishing to major in biology, environmental science, medical laboratory technology or other related discipline may replace PHS 102 and PHS 172 by BIO 101 & BIO 171

FRESHMAN ARTS PROGRAM

First Semester   :   BIO 101, BIO 171, ENL 105, PHL 101, MAT 100.
Second Semester   :   MAT 105, VIA 101, ENL 107, HIT 101 or BAD 101, PSL 101.

DEGREES OFFERED

Faculty of Architecture, Art and Design
- Bachelor of Architecture
- BA - Graphic Design
- BA - Inetrior Design

Faculty of Business Administration and Economics
- BBA
- BBA -Accounting Concentration
- BBA -Banking and Finance Concentration
- BBA -Economics Concentration
- BBA -International Business Management Concentration
- BBA -Marketing Concentration
- Bachelor of Hotel Management and Tourism
- MBA

Faculty of Engineering
- BE in Civil Engineering
- BE in Computer and Communication Engineering
- BE in Electrical Engineering
- BE in Mechanical Engineering

Faculty of Humanities
- BA in English
- BA in Translation and Interpretership
- BA in Education (Early Childhood)
- BA in Education (Learning Disabilities)
- BA in Education (Education of the Gifted)
- BA in Education (School Counseling)
- BA in Education (Education of the Handicapped)
- BA in Physical Education and Sport
- Teaching Diploma
- BA in Communication Arts (Journalism)
- BA in Communication Arts (Radio/TV)
- BA in Advertising and Marketing
- BA in Arabic Language and Literature
- BA in Clinical Psychology
- BA in Educational Psychology
- BA in Industrial Psychology
- MA in English Literature
- MA in Applied Linguistics and TEFL
- MA in Translation and Interpretership
- MA in Media Studies (Advertising)
- MA in Media Studies (Electronic Media)
- MA in Media Studies (Journalism)

- MA in Arabic Language and Litterature

Faculty of Natural and Applied Sciences
- BS in Business Computing
- BS in Computer Science
- BS in Computer Science (Computer Information Systems).
- BS in Geographical Information Science
- BS in Actuarial Science and Insurance
- BS in Applied Statistics
- BS in Mathematics
- BS in Biology
- BS in Environmental Science
- BS in Medical Laboratory Technology
- BS in Physics
- MS in Computer Science

Faculty of Political Science, Public Administration and Diplomacy
- BA in Political Science
- BA in Political Science (American Studies)
- BA in Political Science (Euro-Mediterranean Studies)
- BA in Public Administration
- BA in Criminal Justice
- BA in International Affairs and Diplomacy
- MA in Political Science
- MA in Comparative Law
- MA in Public Administration
- MA in International Affairs and Diplomacy
- MA in International Law

Picture page

ACADEMIC RULES AND REGULATIONS (Graduate program)

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^-	Very Good	3.7	92 - 89
B^+	Good	3.3	88 - 85
B	Good	3.0	84 - 81
B^-	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 *F*. Degree candidates should be aware that an *I* grade received during the last semester in any of the courses required for graduation will result in the postponement of graduation.

PR   This grade is used to indicate progress on research for the Master's thesis or project up to the 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 *W* 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 *W* is not counted in the grade point average and may not be changed to any other grade under any circumstances.

UW   The grade *UW* 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 *F* in the grade point average.

U   Students have the option of auditing courses instead of receiving credits and grades for them. A *U* grade is made on the student's permanent record.

ATTENDANCE AND CONTINUANCE POLICIES

Classes are held Monday-Friday.

Graduate courses are offered in the afternoon as of 1:30 p.m.

Students are expected to attend all classes and laboratory sessions. Absence, whether excused or not, does not absolve a student from responsibility for the work done or from conforming with 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 absent himself/herself for a maximum of 6 hours per 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 resolve problems satisfactorily, they will refer students to others 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, shall be conducted in an absolutely and uncompromisingly honest manner by graduate students.

Apparent and alleged breaches of this policy are dealt with by the University Disciplinary Committee.

ACADEMIC STANDARDS

Continuation in graduate programs requires satisfactory progress toward a graduate degree. Evidence of such progress includes maintenance of 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. Only grades of "C" and higher are acceptable in fulfilling requirements for any graduate program or degree.

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 next semester. 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 "*F*"s.

WITHDRAWAL POLICIES

i. Leave of Absence: Graduate students may request 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 apply for readmission to the University and to the graduate degree program.

ii. Withdrawal from Courses: After the date of dropping and/or adding courses, students are allowed until the end of the twelfth week as of the beginning of a semester to withdraw from courses, provided their academic load does not fall below 9 credits. "*W*" will be inscribed on their records. No withdrawal is allowed beyond this period.

iii. Withdrawal must be made before the last day indicated for dropping a course. Late withdrawal may be accepted by the department and the Dean in case of illness or circumstance beyond control.

PROBATION

A student who fails to reach a cumulative grade point average of "B" in any particular semester is automatically placed on probation for one semester only. Should the student fail to remove such probation in the following semester he/she will be suspended.

A suspended student may not apply for readmission to the University Graduate Program.

TIME LIMITS

A Master's degree student should complete work within five calendar years after the student's first graduate registration at NDU. When extension seems to be necessary and appropriate, the student will petition the his/her department for an extension. If the extension is denied, the student will be dismissed.

APPLICATION FOR GRADUATION

Students who expect to graduate must fill the "Application Form for Graduation" with the Office of the Registrar.

Degrees earned during any semester or summer will be awarded only at the following Spring semester 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 might 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.

THESIS/RESEARCH PROJECT

Students must register for the thesis upon the completion of at least 24 credits with an overall average of at least 3.0/4.0 and after receiving the approval of both the Department Chairperson and the Thesis Advisor. The work for the thesis is expected to be completed within a period of one academic year; otherwise, the student shall register for three credits every semester thereafter for a maximum of two consecutive semesters.

The jury for the oral defense for the thesis shall be composed of the thesis advisor and three faculty members, two of whom are from the Department. These faculty members are appointed by the Dean of the Faculty upon recommendation of both the thesis advisor and the Department Chairperson. The jury is to be chaired by one of its members, appointed by the Dean, other than the advisor.

Financial Aid Programs for Graduate Students: From its budget, NDU provides financial aid to a certain number of qualified students in the form of Research Assistantship and/or Teaching Assistantship.

Graduate Teaching Assistantship*: This type is granted to students who have demonstrated enough leadership and expertise to monitor instructional activities in undergraduate classes. A Teaching Assistant is recommended by the Dean of the Faculty concerned to assume the following duties:
1.   Introducing preliminary teaching material (1 course)
2.   Monitoring exams
3.   Preparing instruction materials as required by instructor.

After completing the job assigned, the Teaching Assistant's Advisor will have to submit a full report of work accomplished to the Dean of the Faculty concerned, who in turn, will send a recommendation for remuneration on his/her behalf to the Chairperson of the Financial Aid Committee. A Teaching Assistant may cover a maximum of 40% of his/her .

Graduate Research Assistantship*: It is granted to those who display superior academic performance and promise and must be willing to be involved in academic research. He/She will receive 40% tuition remission. In addition, he/she may cover up to 40% of tuition fees if he/she wishes to be involved in Teaching, and if he/she is recommended for such employment by the Dean of the Faculty concerned.

ELIGIBILITY: To be eligible for a Research and/or Teaching Assistantship, a student must:
1.   be a full-time student each semester (9 crs. minimum)
2.   have completed a minimum of 9 crs. from the Graduate Program at NDU
3.   acquire a minimum cumulative GPA of 3.70 for Teaching Assistantship and Research Assistantship.

A Graduate Research Assistantship or a Teaching Assistantship is liable to renewal every semester if the student fulfills the same stated requirements. But during the last semester, he/she may apply if he/she is registered for 6 credits only.

STEPS IN APPLYING:
1.   Contact the Financial Aid Office one week after the submission of grades.
2.   Fill out the Graduate Assistantship form
3.   Submit the form with:
      a) One photo
      b) Official transcript
      c) Recommendation from the Dean of the Faculty concerned.

Picture Paper

FACULTY OF ARCHITECTURE, ART AND DESIGN (FAAD)

Dr. Nadim Karam, *Dean*

DEPARTMENT OF ARCHITECTURE
Dr. Farid Younes, *Chairperson*

DEPARTMENT OF DESIGN
Mr. Habib Melki, *Chairperson*

FACULTY DIRECTORY

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

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

Department of Design
Yellow Building, 3rd Floor, Room HB 301
Tel: 09–218–950/51/52 Extension 2064
e-mail: hmelki@ndu.edu.lb

FACULTY OF ARCHITECTURE, ART AND DESIGN (FAAD)

LIST OF FULL-TIME FACULTY MEMBERS

Associate Professors
*Karam, Nadim***,** Ph.D, 1989, *Architecture*, University of Tokyo, Japan.

Assistant Professors
Deeb, Reem, Doctor of Music, 1999, *Voice Performance*, *History and Literature, Orgon and Church Music*, Indiana University, USA
Haddad, Robert, M.F.A., 1980, *Fine Arts,* University of Pennsylvania, USA
*Younes, Farid***,** Ph.D, 1997, *Amenagement*, Université de Montréal, Quebec, Canada

Senior Lecturer
Blankenship, Sherry, M.A. 1987, *Product Design (Visual Com.),* North Carolina State University, USA
El Asmar, Jean-Pierre, Laurea di Dottore, 1991, *Architecture*, Universita' Degli Studi Di Firenze, Italy.
Melki, Habib, M.A., 1985, *Architecture,* Ball State University, USA

Lecturers
Al-Hage, Gabriel, M.Urb.,1992, *Urbanism*, Université de Montréal, Québec, Canada.
Bechara, André, B.F.A., 1989, *Environmental Design*, Parson School of Design, USA
Choueiri, Linda, M.S., 2000, *Supervision & Admin. in the Visual Arts*, Parsons, Bank Street College, New York, USA.
Fawkes, Anne, M.F.A., 1999, School of the Museum of Fine Arts, Boston and Tufts University, USA.
Gabriel, Nicolas, D.E.S., 1987, *Architecture*, Université Libanaise (I.N.B.A.), D.E.S.S.U., 2000, *Urbanism,* Université Libanaise
Hooven, Paul, M.F.A., 1999, *Computer Arts,* University of Massachussetts-Amherst, USA
Kortbawi, John, Diploma, 1977, *Graphic Design*, London College of Printing, London

Visiting Lecturers
Brown, Stuart, Teaching Diploma, 1996, *Photography,* Guildford College, UK
Cheese, Chloe, MA, 1976, *Graphic Design,* Royal College of Art, UK
Pfeffer, Florian, Diplome, 1997, *Graphic Design*, Hochschule fur Kunste Bremen, Germany

Instructors
Daghfal, Graziella, Diploma, 1996, *Interior Design*, NDU, Lebanon
Matta,Nadim, M.A., 1999, *Typographic Studies*, London College of Printing, UK.

Staff Members
Feghali, Elite, *Administrative Assistant*
Haddad, Liliane, *Dark Room Assistant*
Sfeir, Joanna, *Administrative Assistant*

FACULTY OF ARCHITECTURE, ART AND DESIGN (FAAD)

Dean: *Dr. Nadim M. Karam*
Administrative Assistant: *Miss Elite Feghali*

AIM

The task of the newborn Faculty of Architecture, Art and Design (FAAD) is to provide a creative environment where individuals from different fields of creativity interact, exchange ideas and test them through debates.

Over the course of their education at NDU, students will develop an understanding of the history, theories and principles. While acquiring sophisticated knowledge, student launch into an inquiry of ideas resulting in personal creative works.

FAAD's goal is to foster creative people who are open-minded, always alert to key concepts and issues of their time, and with the courage to make a new departure.

The challenges for both teaching staff and students are to analyze the grounds we are on, redefine the status quo, and shape the future with a commitment to advancing the fields of architecture, art and design.

Departments
The FAAD consists of the following department
> Department of Architecture
> Department of Design
> Department of Art (in stage of development)

Undergraduate Program
> General Education Requirements (GER)
> Core Requirements
> Major Requirements
> Electives

Undergraduate Degrees
The Department of Architecture offers undergraduate program leading to the degree of
> Bachelor of Architecture (191 credits)

The Department of Design offers undergraduate program leading to the dregrees of
> BA in Graphic Design (137 credits)
> BA in Interior Design (155 credits)

DEPARTMENT OF ARCHITECTURE

Chairperson: *Dr. Farid Younes*
Administrative Assistant: *Mrs Joanna Sfeir*

Associate Professor
Karam, Nadim, Ph.D, 1989, University of Tokyo, Japan.
Architecture

Assistant Professor
Younes, Farid, Ph.D, 1997, Université de Montréal, Quebec, Canada.
Amenagement

Senior Lecturer
El Asmar, Jean Pierre, Laurea di Dottore, 1991, Universita' Degli Studi Di Firenze, Italy.
Architecture

Lecturers
Al-Hage, Gabriel, M.Urb.,1992, Université de Montréal, Québec, Canada.
Urbanism
Gabriel, Nicolas, D.E.S., 1987, D.E.S.S.U., 2000, Université Libanaise (I.N.B.A.)
Architecture and Urbanism

The Degree of Bachelor of Architecture

The purpose of this program is to graduate professional architects capable of assuming the traditional role of designing spaces in answer to specific needs while taking into account their visual, symbolic and technical aspects in a changing environment.

Admission Requirements
Architecture transfer students may be accepted into the Faculty of Architecture, Art and Design provided they have a grade-point average of at least 2.0/4.0 in a minimum of 12 credits of transferable courses in addition to the university general admission requirements. The number of transfer credits is determined by the Faculty of Architecture, Art and Design.

Residency Requirements
A transfer candidate with a Bachelor of Architecture degree from an accredited institution is required to successfully complete a minimum of 32 credits of upper-division course work including a graduation project. However, the minimum number of credits to be successfully completed is 64 for transfer students with a "Bachelor of Architecture and Technology" degree.

Full time students of first year standing entering the architecture program must complete the listed program within nine years of the date of enrollment in the program.

Registration Requirements
In general, students are not allowed to carry more than 15 credits or five courses per term, nor more than 6 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 term.

Graduation Requirements
To obtain the degree of bachelor of architecture, a student must complete a total of 191 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. In addition, all major requirement courses must be successfully completed with a minimum grade of C^- . These 191 credits are divided into:

Degree Requirements
(191 credits)

General Education Requirements   **18 cr.**
ENL 221, ENL 239, ENS 201, NTR 201, REG 212 , SOL 201.

Core Requirements   **44 cr.**
CEN 100, CEN 102, CEN 150, CEN 151, CEN 200, CEN 210,
CEN 220, CEN 430, CHM 211, CSC 273, GEO 201, MAT 213,
MAT 215, MAT 224, PHO 201, PHS 201.

Major Requirements   **123 cr.**
RCT 100, RCT 101, RCT 102, RCT 103, RCT 110, RCT 204, RCT 211, RCT
212, RCT 220, RCT 221, RCT 230, RCT 231, RCT 280, RCT 305, RCT 313,
RCT 314, RCT 322, RCT 323, RCT 332, RCT 333, RCT 415, RCT 416, RCT
424, RCT 434, RCT 440, RCT 441, RCT 450, RCT 481 RCT 517, RCT
518, RCT 535, RCT 536, RCT 551, RCT 583, RCT 584.

Choose any two courses from the following pool:
RCT 560, RCT 561, RCT 570, RCT 571, RCT 582.

Electives   **6 cr.**
Choose any two courses of the following:
IND 211, IND 221, IND 223, IND 311, IND 321.
                                                          Total: 191 cr.

Bachelor of Architecture
Suggested Program (191 Credits)

Year 1: (Basic Formation Cycle I: 37 Credits)
Fall Semester I (15 Credits)

MAT	213	Calculus III	3 cr.
PHO	201	Basic Photography	3 cr.
PHS	201	Waves and Heat	2 cr.
RCT	100	Artistic Drawing I	4 cr.
RCT	101	Architectural Communication	3 cr.

Spring Semester I (16 Credits)

MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.
RCT	102	Technical Drawing I	3 cr.
RCT	103	Artistic Drawing II	3 cr.
RCT	110	Basic Graphical Design I	4 cr.

Summer Session I (6 Credits)

CHM	211	Principles of Chemistry	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.

Year 2: (Basic Formation Cycle II: 38 Credits)
Fall Semester II (16 Credits)

CEN	100	Statics	3 cr.
RCT	211	Basic Graphical Design II	4 cr.
RCT	220	History of Architecture I	3 cr.
RCT	230	Building Technology I	3 cr.
RCT	280	Environmental Studies	3 cr.

Spring Semester II (16 Credits)

CEN	102	Mechanics of Materials	3 cr.
RCT	204	Technical Drawing II	3 cr.
RCT	212	Architectural Design I	4 cr.
RCT	221	History of Architecture II	3 cr.
RCT	231	Building Technology II	3 cr.

Summer Session II (6 Credits)

ENL	239	Technical English for Science (GER)	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.

Year 3: (Architectural Formation Cycle I: 37 Credits)
Fall Semester III (14 Credits)

CEN	200	Mechanics of Materials Laboratory	1 cr.
CSC	273	Computer Aided Architectural Design	3 cr.
RCT	313	Architectural Design II	4 cr.
RCT	322	History of Architecture III	3 cr.
RCT	332	Building Acoustics	3 cr.

Spring Semester III (16 Credits)

RCT	305	Architectural Model Making	3 cr.
RCT	314	Architectural Design III	4 cr.
RCT	323	History of Architecture IV	3 cr.
RCT	333	Lighting and Electrical Systems	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.

Summer Semester III (7 Credits)

CEN	150	Surveying	3 cr.
CEN	151	Field Surveying	1 cr.
SOL	201	Introduction to Sociology (GER)	3 cr.

Year 4: (Architectural Formation Cycle II: 39 Credits)
Fall Semester IV (16 Credits)

CEN	210	Structures I	3 cr.
RCT	415	Architectural Design IV	4 cr.
RCT	424	History of Architectural Theories	3 cr.
RCT	434	Mechanical and Sanitary Systems	3 cr.
RCT	440	Urban Design I	3 cr.

Spring Semester IV (17 Credits)

GEO	201	Physical Geology	4 cr.
RCT	416	Architectural Design V	4 cr.
RCT	441	Urban Design II	3 cr.
RCT	450	Laws and Contracts for Architects	3 cr.
RCT	481	Social Architecture	3 cr.

Summer Session IV (6 Credits)

IND	___	Electives	6 cr.

Year 5: (Professional Formation Cycle: 26 Credits)
Fall Semester V (13 Credits)

CEN	430	Concrete Design I	3 cr.
RCT	517	Architectural Design VI	4 cr.
RCT	535	Construction Detailing Studio I	3 cr.
RCT	551	Specifications and Quantity Surveying	3 cr.

Spring Semester V (13 Credits)

CEN	220	Soil Mechanics	3 cr.
RCT	518	Architectural Design VII	4 cr.
RCT	536	Construction Detailing Studio II	3 cr.
REG	212	Religion and Social Issues (GER)	3 cr.

Year 6: (Professional Formation Cycle: 14 Credits)
Fall Semester VI (7 Credits)

RCT	583	Senior Project I	4 cr.
RCT	-----	Architecture Pool	3 cr.

Spring Semester VI (7 Credits)

RCT	584	Senior Project II	4 cr.
RCT	-----	Architecture Pool	3 cr.

RCT 100 Artistic Drawing I (2.4); 4 cr.
Freehand drawing, and logical sequences in developing skills.

RCT 101 Architectural Communication (2.2); 3 cr. Architectural communication and development of drafting skills in architectural representation.

RCT 102 Technical Drawing I (2.2); 3 cr.
Development of orthographic projections with an emphasis on developments, shades and shadows. *Prerequisite:* RCT 101.

RCT 103 Artistic Drawing II (2.2); 3 cr.
Continuation of RCT 100 with an emphasis on the use of color pencils and water colors. *Prerequisite:* RCT 100.

RCT 110 Basic Graphical Design I (2.4); 4 cr.
Basic perception of the universal features of 2D design processes with a well defined emphasis on the composition of forms and colors. *Prerequisite:* RCT 101.

RCT 204 Technical Drawing II (2.2); 3 cr.
Development of perspective and other three-dimensional representations with their respective rendering, shades and shadows. *Prerequisite:* RCT 101.

RCT 211 Basic Graphical Design II (2.4):4 cr.
The course is intended to help students in the development of 3D thinking, through the study of form and space. *Prerequisite:* RCT 110.

RCT 212 Architectural Design I (2.4); 4 cr. A series of projects that initiate the design of a construction in an answer to specific planning problems in their social, technological, environmental, and symbolic aspects. *Prerequisite:* RCT 211.

RCT 220 History of Architecture I (3.0); 3 cr.
A survey and analysis of the architectural production of antiquity.

RCT 221 History of Architecture II (3.0); 3 cr. Continuation of History of Architecture I, to cover the development of architecture from the 4th to the 14th century. *Prerequisite:* RCT 220.

RCT 230 Building Technology I (3.0); 3 cr.
Qualitative and quantitative principles of building assembly and detailing in masonry, timber, concrete and steel.

RCT 231 Building Technology II (2.2); 3 cr.
Exploration and application of qualitative principles and theory of building construction to the design process. *Prerequisites:* RCT 230, RCT 101.

RCT 280 Environmental Studies (2.2); 3 cr.
This course introduces the student to the architectural solutions of primitive human societies to environmental conditions accompanied by student research and presentations on case studies such as: igloo, tent, bush-house, boathouse, etc... Studio projects for problems of different environmental conditions. Architectural planning. *Prerequisites:* RCT 101, RCT 103.

RCT 305 Architectural Model Making (2.2); 3 cr. This course is designed to introduce the student to the planning and building of various types of models used in the architecture profession.

RCT 313 Architectural Design II (2.4) 4 cr.
Continuation of Architectural Design I with an emphasis on the increasing complexity of planning problems. Introduction to micro climatic solutions. *Prerequisite:* RCT 212.

RCT 314 Architectural Design III (2.4) 4 cr.
Projects aiming at developing and designing complex architectural settings. *Prerequisite:* RCT 313.

RCT 322 History of Architecture III (3.0); 3 cr. Continuation of History of Architecture II, to cover architecture from the 15th to the mid-18th century. *Prerequisite:* RCT 221.

RCT 323 History of Architecture IV (3.0); 3 cr. Continuation of History of Architecture III, to cover the architecture from the mid-18th to

the beginning of World War II. *Prerequisite:* RCT 322.

RCT 332 Building Acoustics (2.2); 3 cr. Analysis, design and detailing of acoustical factors influencing spaces and building design. *Prerequisites:* RCT 231.

RCT 333 Lighting and Electrical Systems (2.2); 3 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:* RCT 231.

RCT 415 Architectural Design IV (2.4); 4 cr. Continuation of Architectural Design III dealing with relatively complex settings, with emphasis on details. Students are to choose real sites and abide by applicable laws and codes. *Prerequisite:* RCT 314.

RCT 416 Architectural Design V (2.4); 4 cr. Deals with the assessment of existing architectural works and projection of future needs in a real expanding urban area. *Prerequisite:* RCT 415.

RCT 424 History of Architectural Theories (3.0); 3 cr. Survey of architectural theories as stated by architects, historians, and architectural critics. *Prerequisite:* RCT 323.

RCT 434 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:* RCT 231.

RCT 440 Urban Design 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:* RCT 314

RCT 441 Urban Design 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:* RCT 440.

RCT 450 Laws and Contracts for Architects (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)

RCT 481 Social Architecture (2.2); 3 cr. Space organization using statistical data, codes, human factors, etc., to design public buildings. *Prerequisite*: RCT 424.

RCT 517 Architectural Design VI (2.4); 4 cr. An in-depth study of topical issue in Architectural Design (Theater, Library, Cinema...) with realistic technical and legal constraints. *Prerequisite:* RCT 416.

RCT 518 Architectural Design VII (2.4); 4 cr. An in depth study of topical issues in Architectural Design (Healthcare Design, Hospital, First Aid Center ...) with realistic technical and legal constraints. *Prerequisite:* RCT 517

RCT 535 Construction Detailing Studio I (2.2); 3 cr. A course in construction detailing covering insulation and isolation factors in walls, roofs, and basements; detailing of windows, doors, curtain, walls, fenestration., precast and cast-in-situ elements; details using wood, steel, concrete, plastic and bituminous materials for different thermal and humid exposures.

RCT 536 Construction Detailing Studio II (2.2); 3 cr. Continuation of ARC 526 and studio work for personalized solutions to detailing elements. An increasing emphasis on prefabricated and precast elements, and the problems encountered in their detailing, storing, handling and execution on site. *Prerequisite:* RCT 535.

RCT 551 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.

RCT 560 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:* RCT 204, RCT 323.

RCT 561 Buildings Consolidation and Fitness (2.2); 3 cr. Deals with the static restoration of damaged buildings or monuments. *Prerequisites:* RCT 560, CEN 102.

RCT 570 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.

RCT 571 Design of Gardens and Small Properties (2.2); 3 cr. Design of Small-Scale residential projects; master planning, use of plants and architectural materials, graphics.

RCT 582 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. RCT 231.

RCT 583 Senior Project I (3.4); 4 cr. A project involving research and analysis, at the end of which the student will present a complete first draft of the theme and the project preliminary drawings. *Prerequisite:* RCT 518.

RCT 584 Senior Project II (3.4); 4 cr. The complete and comprehensive development of the theme project's architectural design. A complete set of drawings, models, photographs, and recordings to be finalized by the student under the supervision of an adviser and collaborators. *Prerequisite:* RCT 583.

DEPARTMENT OF DESIGN

Chairperson: *Mr. Habib Melki*
Administrative Assistant: *Mrs. Joanna Sfeir*

Associate Professor
Karam, Nadim, Ph.D, 1989, University of Tokyo, Japan.

Assistant Professors
Deeb, Reem, Doctor of Music, 1999, Indiana University, USA
Voice Performance, History and Literature, Organ and Church Music
Haddad, Robert, M.F.A., 1980, University of Pennsylvania, USA
Fine Arts

Senior Lecturer
Blankenship, Sherry, M.A. 1987, North Carolina State University, USA
Product Design (Visual Com.),
Melki, Habib, M.A., 1985, Ball State University, USA
Architecture

Lecturers
Bechara, André, B.F.A., 1991, Parson School of Design, USA
Environmental Design,
Choueiri, Linda, M.S., 2000, Parsons, Bank Street College, New York, USA
Supervision & Administration in the Visual Arts
Fawkes, Anne, M.F.A., 1999, School of Museum and Fine Arts, Boston and Tufts University, U.S.A.
Hooven, Paul, M.F.A., 1999, University of Massachussetts-Amherst, USA
Computer Arts
Kortbawi, John, Diploma, 1977, London College of Printing, London
Graphic Design

Visiting Lecturers
Brown, Stuart, Teaching Diploma, 1996, Guildford College, UK
Photography
Cheese, Chloe, MA, 1976, Royal College of Art, UK
Graphic Design
Pfeffer, Florian, Diplome, 1997, Hochschule fur Kunste Bremen, Germany
Graphic Design

Instructors
Matta,Nadim, M.A., 1999, London College of Printing, UK.
Typographic Studies
Daghfal, Graziella, Diploma, 1996, NDU, Lebanon
Interior Design

The Department of Design is currently offering two degrees:
− A Bachelor of Arts in Graphic Design

− A Bachelor of Arts in Interior Design.

The Degree of Bachelor of Arts in Graphic Design

The overall Graphic Design program concentrates on study and practice of the background, context, skills and approaches which form a true understanding of professional graphic design, for today and the future. As Design Department, students will '**learn by doing**'.

The new Bachelor of Arts Degree in Graphic Design is a 4 year fulltime course including a one year fulltime Foundation Year. The program totals 137 credits including the Foundation Year (31 credits).

Admission Requirements
In addition to the University general admission requirements, prospective candidates must complete the Foundation Year courses with a 2.3 / 4.0 grade or above in every VIA course (see separate Foundation Year description).

Students who fail to meet the above requirements will not be able to proceed to the degree courses in Graphic Design, Interior Design or other majors in the Design Department.

Graduation Requirements
To obtain the degree of Bachelor of Arts in Graphic Design, a student must complete 137 credits with a minimum cumulative grade-point average of 2.3/4.0 and a grade of " C+ " or above in every course listed under Major Requirements. The 137 credits are divided into:

Degree Requirements
(137 credits)

General Education Requirements (GER):	**18 cr.**

The GER are distributed as follows:

Sophomore English	6 cr.
Cultural Studies	6 cr.

Arabic, Western Literature, Religion, Philosophy, Cultural Sequence, Art, Music, etc.

Basic Science	6 cr.

Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc.

Students are expected to take their general faculty requirements during the summer sessions.

Core Requirements	**31 cr.**

Foundation year Courses
VIA 211, VIA 212, VIA 213, VIA 221, VIA 222, VIA 223, VIA 224,
VIA 225 and MAT 202.

Major Requirements	**88 cr.**

GRD 211, GRD 212, GRD 213, GRD 214, GRD 215, GRD 221, GRD 222, GRD 224, GRD 225, GRD 311, GRD 313, GRD 314, GRD 315, GRD 321, GRD 323,

GRD 325, GRD 394, GRD 411, GRD 413, GRD 414, GRD 415, GRD 421, GRD 423, GRD 424, GRD 425, GRD 462, GRD 492,
PHO 223, PHO 312, PHO 322.

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 Arts in Graphic Design
Suggested Program (137 Credits)

Foundation year (31 Credits)

Fall Semester (15 Credits)

VIA	211	Drawing I	4 cr.
VIA	212	Design Principles I	4 cr.
VIA	213	Basic Technical Skills	4 cr.
MAT	202	Mathematics for Visual Arts	3 cr.

Spring Semester (16 Credits)

VIA	221	Drawing II	3 cr.
VIA	222	Design Principles II	4 cr.
VIA	223	Descriptive Geometry	3 cr.
VIA	224	Performing Arts and Music	3 cr.
VIA	225	Introduction to Photography	3 cr.

Year I of the Degree Course (Sophomore Year)

Fall Semester (14 Credits)

GRD	211	Fundamentals of Graphic Design	3 cr.
GRD	212	Color for Graphic Designers	3 cr.
GRD	213	Fundamentals of Typography	3 cr.
GRD	214	History of Art and Design I	2 cr.
GRD	215	Software for Graphic Designers I	3 cr.

Spring Semester (15 Credits)

GRD	221	Design and Use of Signs and Symbols	3 cr.
GRD	222	Graphic Vocabulary and Visual Rhetoric	3 cr.
PHO	223	Photography for Graphic Designers	3 cr.
GRD	224	History of Art and Design II	2 cr.
GRD	225	Illustration as Part of Visual Communication Design	4 cr.

Summer Session I (9 Credits)

___	___	GER	9 cr.

Year II of the Degree Course (Junior Year)

Fall Semester (15 Credits)

GRD	311	Applied Typographic Design	3 cr.
PHO	312	Creative Photography I	3 cr.
GRD	313	Professional Design Practice	3 cr.
GRD	314	Layout and Editorial Design	3 cr.
GRD	315	Moving Image Design	3 cr.

Spring Semester (14 Credits)

GRD	321	Visual Rhetoric for Sequential Design	3 cr.
PHO	322	Creative Photography II	2 cr.
GRD	323	Visualization and Presentation of Data	3 cr.
GRD	394	Senior Project I	3 cr.
GRD	325	Software for Graphic Designers II	3 cr.

Summer Session II (9 Credits)

___	___	GER	9 cr.

Year III of the Degree Course (Senior Year)

Fall Semester (14 Credits)

GRD	411	Development of the Corporate Image	3 cr.
GRD	462	Visual Design Practicum	2 cr.
GRD	413	Packaging and 3 - D Graphics	3 cr.
GRD	414	Applied Graphic Design	3 cr.
GRD	415	Software for Graphic Designers III	3 cr.

Spring Semester (16 Credits)

GRD	421	Environmental Graphic Design and Architectural Graphics	3 cr.
GRD	423	Print Management and Production	3 cr.
GRD	424	Professional Practice for Graphic Designers	2 cr.
GRD	425	Portfolio Presentation	5 cr.
GRD	492	Senior Project II	3 cr.

The Degree of Bachelor of Arts in Interior Design

The purpose of the Interior Design program is to form professional designers competent enough to create habitable and expressive environments. While learning about planning, designing and detailing interior spaces, students will be able to display originality in the use of materials, colors and textures.

The program combines courses in design theory with technology, building systems, drawing skills, materials and construction, design history, behavioral patterns and professional practice.

Projects are assigned in the context of commercial, institutional and residential buildings. Interior Design students will be encouraged to pursue a range of courses of related professional studies, especially in furniture, textile, industrial, and environmental design.

Admission Requirements

In addition to the University general admission requirements, prospective candidates must complete the Foundation Year courses with a 2.3 / 4.0 or above in every VIA course (see separate Foundation Year description).

Students who fail to meet the above requirements will not be able to proceed to the degree in Interior Design, Graphic Design or other majors in the Design Department.

Graduation Requirements

To obtain the degree of Bachelor of Interior Design, a student must complete 155 credits with a minimum cumulative grade-point average of 2.3/4.0 and a grade "C+" or above in every course listed under Major Requirements. The 155 credits are divided as follows:

Degree Requirements
(155 credits)

General Education Requirements	**18 cr.**

The GER are distributed as follows:

Sophomore English	6 cr.
Cultural Studies	6 cr.

Arabic, Western Literature, Religion, Philosophy, Cultural Sequence, Art, Music, etc.

Basic Science	6 cr.

Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc.

Students are expected to take their general faculty requirements during the summer sessions.

Core Requirements	**31 cr.**

Foundation year Courses
VIA 211, VIA 212, VIA 213, VIA 221, VIA 222, VIA 223,
VIA 224, VIA 225 and MAT 202.

Major Requirements	**106 cr.**

IND 211, IND 212, IND 213, IND 214, IND 221, IND 222, IND 223,
IND 224, IND 225, IND 311, IND 312, IND 313, IND 314, IND 315,
IND 321, IND 322, IND 323, IND 324, IND 325, IND 411, IND 412,
IND 413, IND 414, IND 421, IND 422, IND 423, IND 551, IND 552,
IND 553, IND 582, IND 591, IND 592 .

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.

Total:	**155 cr.**

Bachelor of Arts Degree in Interior Design Program
Suggested Program (155 Credits)

Foundation Year (31 Credits)
Fall Semester (15 Credits)

VIA	211	Drawing I	4 cr.
VIA	212	Design Principles I	4 cr.
VIA	213	Basic Technical Skills	4 cr.
MAT	202	Mathematics for Visual Arts	3 cr.

Spring Semester (16 Credits)

VIA	221	Drawing II	3 cr.
VIA	222	Design Principles II	4 cr.
VIA	223	Descriptive Geometry	3 cr.
VIA	224	Performing Arts and Music	3 cr.
VIA	225	Introduction to Photography	3 cr.

Year I of the Degree Course (Sophomore Year) - Fundamental Studies
Fall Semester (16 Credits)

IND	211	History of Interiors and Furniture I	3 cr.
IND	212	Fundamentals of Interior I	4 cr.
IND	213	Drawing for Interior Design I	3 cr.
IND	214	Materials and Methods of Construction	3 cr.
ENL	236	Technical English	3 cr.

Spring Semester (15 Credits)

IND	221	History of Interiors and Furniture II	3 cr.
IND	222	Fundamentals of Interior II	4 cr.
IND	223	Drawing for Interior Design II	3 cr.
IND	224	Interior Detailing and Construction I	3 cr.
IND	225	Colors in Interiors	2 cr.

Summer Session I (6 Credits)

___	___	GER	6 cr.

Year II of the Degree Course (Junior Year) - Development Studies
Fall Semester (15 Credits)

IND	311	History of Costumes and Styles	3 cr.
IND	312	Interior Design Project I	4 cr.
IND	313	Software Packages for Interior Designers I	2 cr.
IND	314	Interior Detailing and Construction II	3 cr.
IND	315	Concepts of Historic Preservation	3 cr.

Spring Semester (15 Credits)

IND	321	Materials and Finishes	3 cr.
IND	322	Interior Design Project II	4 cr.
IND	323	Software Packages for Interior Designers II	2 cr.
IND	324	Textiles for Interiors	3 cr.
IND	325	Integrated Building Systems (HVAC and Plumbing)	3 cr.

Summer Session II (6 Credits)

___	___	GER	6 cr.

Year III of the Degree Course (Senior Year) - Applied studies
Fall Semester (12 Credits)

IND	411	Human Factors in Interior Design	2 cr.
IND	412	Interior Design Studio I	4 cr.
IND	413	Software Packages for Interior Designers III	3 cr.
IND	414	Environmental Graphic Design	3 cr.

Spring Semester (15 Credits)

IND	421	Building Codes and Safety Regulations	3 cr.
IND	422	Interior Design Studio II	6 cr.
IND	423	Modelmaking	3 cr.
___	___	GER	3 cr.

Year IV of the Degree Course (Senior Year) - Student Driven Studies
Fall Semester (12 Credits)

IND	551	History of Modern and Contemporary Interiors	3 cr.
IND	552	Quantity Surveying for Interior Designers	3 cr.
IND	591	Interior Design Degree Project I	6 cr.

Spring Semester (12 Credits)

IND	553	Business Practice for Interior Designers	3 cr.
IND	582	Seminar on Legal and Construction Aspects	3 cr.
IND	592	Interior Design Degree Project II	6 cr.

Core Requirements

The Foundation Year is a mandatory prerequisite to the Degree courses. It is an exploratory, diagnostic and confirmatory program shared with all Design students to help determine the students' strengths and aptitudes, enabling a decision to be made about which degree specialization best suits their interests and abilities. This Foundation Year is common to all Design majors and specialisations in the Department of Design.

The Foundation Year is of one year's duration and consists of the following courses:
VIA 211, VIA 212, VIA 213, VIA 221, VIA 222, VIA 223, VIA 224, VIA 225 and MAT 202.

The students must complete all Foundation courses with a grade 2.3 / 4.0 or above in every VIA course. Students who fail to meet the above requirements will be asked to repeat the Foundation Year for only one additional year or change the major.

Preparatory English Courses:
ENL 105, ENL 107.

Foudation year (31 Credits)
Fall Semester (15 Credits)

VIA	211	Drawing I	4 cr.
VIA	212	Design Principles I	4 cr.
VIA	213	Basic Technical Skills	4 cr.
MAT	202	Mathematics for Visual Arts	3 cr.

Spring Semester (16 Credits)

VIA	221	Drawing II	3 cr.
VIA	222	Design Principles II	4 cr.
VIA	223	Descriptive Geometry	3 cr.
VIA	224	Performing Arts and Music	3 cr.
VIA	225	Introduction to Photography	3 cr.

Undergraduate courses: Design

VIA 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.

VIA 201 Basic Design (2.2); 3 cr. Introduces students to basics of Visual expression and organization. *Prerequisite:*Sophomore Standing.

VIA 211 Drawing I (2.4); 4 cr. Eye and hand coordination are developed through the use of different drawing techniques.

VIA 212 Design Principles I (2.4); 4 cr. Various design elements are introduced such as line, shape, plane, texture, color, style and composition.

VIA 213 Basic Technical Skills (2.4); 4 cr. Using different art tools, devices and materials. Preparing and presenting a portfolio.

VIA 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:* VIA 201.

VIA 221 Drawing II (2.2); 3 cr. Artistic drawing is encouraged through observation and application. The human figure is considered in relation to the environment. *Prerequisite:* VIA 211.

VIA 222 Design Principles II (2.4); 4 cr. Relations between 3-D structure and space are explored analytically and synthetically.

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

VIA 224 Performing Arts and Music (2.2); 3 cr. Designed to enhance student's creativity in discovering the fields of theater, dance and music.

VIA 225 Introduction to Photography (2.2) 3 cr. The use of photography as an aesthetic tool for art and design.

VIA 490 Senior Study (3.0); 3 cr. Research in any special topic dealing with history of architecture, furniture, antiques, textiles or costume design. *Prerequisite:* Senior Standing. Undergraduate courses: Graphic Design

Undergraduate Courses: Graphic Design

GRD 211 Fundamentals of Graphic Design (2.2); 3 cr. Series of exercises exploring different principles of pictorial composition.

GRD 212 Color for Graphic Designers (2.2); 3 cr. Theory and practice of color used for graphic design.Workshop setting.

GRD 213 Fundamentals of Typography (2.2); 3 cr. Short history of the development of the printed alphabet. Type measurement and layout dimension.

GRD 214 History of Modern Art and Design I (2.0); 2 cr. Lectures concerning Art and Design dating from BC to the late 1900s.
GRD 215 Software for Graphic Designers I (2.2); 3 cr. Apple Macintosh computers as a basic element in graphic design.

GRD 221 Design and Use of Signs and Symbols (2.2); 3 cr. Focus on visual communication and the use of the language of signs, symbols, ideograms, logotypes and the science of 'semiotics'. *Prerequisite:* GRD 211.

GRD 222 Graphic Vocabulary and Visual Rhetoric (2.2); 3 cr. Concentrates on the creation of graphic concepts: visual puns, juxtaposition of ideas and visual metaphors.

GRD 224 History of Modern Art and Design II (2.0) 2 cr. Continuation of GRD 214. *Prerequisite:* GRD 214.

GRD 225 Illustration As Part Of Visual Communication Design (2.4); 4 cr. Drawing

ability combined with the use of color and different media. Studio setting.

GRD 311 Applied Typographic Design (2.2); 3 cr. Continuation of GRD 213. *Prerequisite:* GRD 221.

GRD 313 Professional Design Practice (2.2); 3 cr. Includes five separate subjects which tackle graphic design problems in a professional setting.

GRD 314 Layout and Editorial Design (2.2); 3 cr. Graphic Design for books, magazines, newspapers and brochures, etc.

GRD 315 Moving Image Design (2.2); 3 cr. Films, animation, video and television graphics are covered.

GRD 321 Visual Rhetoric for Sequential Design (2.2); 3 cr. Graphic vocabulary explored in depth to provide a variety of approaches in creating the visual ideas for sequential design.

GRD 323 Visualization and Presentation of Data (2.2); 3 cr. Various ways of communicating facts, statistics, figures, timetables, maps and instruction manuals.

GRD 325 Software for Graphic Designers II (2.2); 3 cr. Graphic design projects involing text and image using Photoshop, Quark Xpress, Illustrator, Freehand, etc. Computer Lab. *Prerequisite:* GRD 215.

GRD 394 Senior Project I (3.0); 3 cr. The Historical and Theoretical Studies and Associated Disciplines (HATs + ADs) is a personal self-initiated project.

GRD 411 Development of the Corporate Image (2.2); 3 cr. Production of a wide range of items representing the corporate visual identity. *Prerequisite :* GRD 321.

GRD 413 Packaging and 3D Graphics (2.2); 3 cr. Concentrated opportunity to develop packaging design.

GRD 414 Applied Graphic Design (2.2); 3 cr. Includes research and design of a book, magazine, newspaper or an instruction manual.

GRD 415 Software for Graphic Designers III (2.2); 3 cr. Exploits digital imagery using the computer to design books, posters, CD covers, etc. Computer Lab. setting. *Prerequisite:* GRD 325.

GRD 421 Environmental Graphic Design and Architectural graphics. (2.2); 3 cr. Develops a project within the following categories: signs, sign systems, architectural graphics. *Prerequisite:* GRD 411.

GRD 423 Print Management and Production (2.2); 3 cr. An illustrated report showing stages of development.

GRD 424 Professional Practice for Graphic Designers(2.0); 2 cr. Finance and Business discussions.

GRD 425 Portfolio Presentation (2.6); 5 cr. Presentation of senior year projects and project reports for the final exhibition and evaluation purposes.

GRD 462 Visual Design Practicum (0.4); 2 cr. Two small scale projects. Both may be completed out of the department.

GRD 492 Senior project II (2.2); 3 cr. Projects which fall under the title Graphic Design or Visual Communications Design. *Prerequisite:* GRD 394.

PHO 223 Photography for Graphic Designers (2.2) 3 cr. Darkroom techniques, exposure and lighting, film speeds and processing. Laboratory.

PHO 312 Creative Photography I (2.2); 3 cr. Explores a more extensive use of photography and darkroom techniques. *Prerequisite:* PHO 223.

PHO 322 Creative Photography II (1.2) 2 cr. Continuation of PHO 312. *Prerequisite:* PHO 312.

Undergraduate Courses: Interior Design

IND 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 Romanesque period. *Corequisite:* IND 212.

IND 212 Fundamentals of Interior I (2.4); 4 cr. Essentials of planning an interior architectural environment and the relationship of spatial organization.

IND 213 Drawing for Interior Design I (2.2) 3 cr. Development of freehand perspective drawing skills appropriate for the presentation of Interior Architectural design. *Corequisite:* IND 212.

IND 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:* IND 212.

IND 221 History of Interiors and Furniture II (3.0); 3 cr. Survey of interiors and furniture from the Gothic period to the end of late Renaissance. Prerequisite: IND 211. *Corequisite:* IND 222.

IND 222 Fundamentals of Interior II (2.4); 4 cr. Study of structural setting in any architectural space leading to constraints in the design process. *Prerequisite:* IND 212.

IND 223 Drawing for Interior Design II (2.2); 3 cr. This is an intense studio course developing rendering skills and techniques in traditional and computer media. Prerequisite: IND 213, *Corequisite:* IND 222.

IND 224 Interior Detailing and Construction I (2.2); 3 cr. This course will offer an introduction to construction detailing for architectural interiors, focusing on architectural millwork. *Prerequisite:* IND 214, *Corequisite:* IND 222.

IND 225 Colors in Interiors (0.4); 2 cr. The student will be involved in exercises that will focus on color as a compositional element and a vehicle for personal expression. *Corequisite*: IND 222.

IND 311 History of Costumes and Styles (3.0); 3 cr. A history of costumes and styles from the French revolution to the beginning of the 20th Century. *Prerequisite*: IND 221, *Corequisite:* IND 312.

IND 312 Interior Design Project I (2.4); 4 cr. This course covers the creative triggering of the design problem solving process through schematics. *Prerequisite:* IND 222.

IND 313 Software Packages for Interior Designers I (1.2); 2 cr. This course will explore the pragmatics of computer hardware and software as integral tools to contemporary design. *Corequisite*: IND 312.

IND 314 Interior Detailing and Construction II (2.2); 3 cr. Review, discussion and analysis of interior construction systems used in commercial and institutional structures. Prerequisite: IND 224, *Corequisite:* IND 312.

IND 315 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:* IND 312.

IND 321 Materials and Finishes (0.6); 3 cr. Introduces the students to the various material finishes used in interior design. *Prerequisite:* IND 225, *Corequisite*: IND 322.

IND 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*: IND 312.

IND 323 Software Packages for Interior Designers II (1.2); 2 cr. Develops a more professional and creative approach to design while broadening the student's technical base. *Prerequisite*: IND 313, *Corequisite:* IND 322.

IND 324 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. *Prerequisite:* IND 311, *Corequisite:* IND 322.

IND 325 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:* IND 322.

IND 411 Human Factors in Interior Design (2.0); 2 cr. This course will investigate human factors as an essential ingredient in the design process. *Prerequisite:* IND 322, *Corequisite:* IND 412.

IND 412 Interior Design Studio I (2.4); 4 cr. This course covers all aspects of professional presentation of a complete construction drawing-file to secure accurate executions. *Prerequisite:* IND 322.

IND 413 Software Packages for Interior Designers III (2.2); 3 cr. This course will show students how to create computer animation and 3-D rendered materials within an interior space. *Prerequisite:* IND 323, *Corequisite:* IND 412.

IND 414 Environmental Graphic Design (2.2); 3 cr. This course will study the presentation of information in the designed environment. *Prerequisite:* IND 321. *Corequisite:* IND 412.

IND 421 Building Codes and Safety Regulations (3.0); 3 cr. Focuses on topics relating to healthy and safe environmental interior regulations. *Corequisite:* IND 422.

IND 422 Interior Design Studio II (3.6); 6 cr. This course is structured to challenge the student to deal specifically with contract interiors. *Prerequisite:* IND 412.

IND 423 Modelmaking (0.6); 3 cr. A course primarily designed to introduce the student to planning and building of various types of models used in interior architecture. *Corequisite:* IND 422.

IND 551 History of Modern and Contemporary Interiors (3.0); 3 cr. This course will be an overview of 20th Century art, culture, interior, and furniture. *Corequisite:* IND 591.

IND 552 Quantity Surveying for Interior Designers (2.2); 3 cr. Emphasis on the principals of construction estimation. *Corequisite:* IND 591.

IND 553 Business Practice for Interior Designers (3.0); 3 cr. Focuses on the legal aspects of design and contract documents for interior architecture. *Corequisite*: IND 592.

IND 582 Seminar on Legal and Construction Aspects (3.0); 3 cr. Acquaints the student with the governmental laws set for the design profession. *Corequisite:* IND 592.

IND 591 Interior Design Degree Project I (3.6); 6 cr. In this course, students are responsible for the preparation and completion of an independent prospective or existing project. *Prerequisite:* IND 422.

IND 592 Interior Design Project II (3.6); 6 cr. Continuation of IND 591

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS (FBA&E)

Dr. Hratch Hadjetian, *Dean*

DEPARTMENT OF BUSINESS ADMINISTRATION
Mr. Antoine Khalil, *Chairperson*

DEPARTMENT OF HOTEL MANAGEMENT AND TOURISM
Mr. Youssef Zgheib, *Chairperson*

FACULTY DIRECTORY

Office of the Dean
HB Building, 2nd Floor, Room 330
Tel: 09–218–950/51/52 Extension 2488
e-mail: hajetian@ndu.edu.lb

Department of Business Administration
HB Building, 2nd Floor, Room 334
Tel: 09–218–950/51/52 Extension 2489
e-mail: tkhalil@ndu.edu.lb

Department of hotel Management & Tourism
HB Building, 2nd Floor, Room 341
Tel: 09–218–950/51/52 Extension 2487
e-mail: yzgheib@ndu.edu.lb

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

LIST OF FULL-TIME FACULTY MEMBERS

Associate Professors
[1]*Hadjetian, Hratch*, Ph.D., 1972, *Economics and Labor-Management Relations,* University of Delhi, India
Karam, Antoine, Ph.D., 1974, *Economics*, Temple University, USA
Stucky, Katherine Ann, D.B.A., 1986, *Management,* University of Memphis, USA

Assistant Professors
Bahous, Victor, M.S., 1985, *Accounting,* Beirut University College, Lebanon
Evans-Pritchard, Deirdre, Ph.D., 1990, *Tourism,* UCLA, USA
Hamadeh, Mohamed, Ph.D., 1998, *Economics,* Syracuse University, USA
Harb, Atef, Ph.D., 1996, *Economics-Operations Research*, Ecole Polytechnique de Montreal, Canada
Khalil, Antoine, M.B.A., 1981, *Finance,* Pace University, USA
Khoueiri, Roy, M.A., 1983, *Economics*, Syracuse University, USA
Saber, Rashid, Ph.D., 1998, *Marketing and Management,* California Coast University, USA

Senior Lecturer
Barakat, Edgard, M.B.A., 1981, *Marketing,* University of Dayton, USA
El-Mourhabi, Joud, M.B.A., M.I.B.A., 1987, *Marketing*, United States International University, England
Frayha, Norma, M.B.A., 1982, *Accounting*, American University of Beirut, Lebanon
Hasham, Elham, a.b.d., 1998, *Management*, USEK, Lebanon; a.b.d., 1999, *Educational Management*, Leicester University, UK.
Hovivian, Hrair, M.S., 1984, *Finance and Economics*, Beirut University College, Lebanon
Zgheib, Youssef, M.B.A., 1985, *Hospitality Management,* American University of Beirut, Lebanon

Instructor
[2]*Abboud, Carole Assaf*, M.B.A., 1995, *Tourism and Marketing*, Notre Dame University, Lebanon

List of Staff Members
Azar, Najat, *Administrative Assistant*
Habchi, Carole, *Secretary*
Khalil, Rita, *Clerk*

> **The Faculty of Business Administration and Economics reserves the right to change a program of study without prior notice.**

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[1] On tenure appointment
[2] As of February 1, 2001

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: *Dr. Hratch Hadjetian*

Administrative Assistant: *Mrs. Najat Azar*

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 the Department of Business Administration and the Department of Hotel Management and Tourism.

The Department of Business Administration offers programs leading to the degree of Bachelor of Business Administration (B.B.A.) and to the degrees of Bachelor of Business Administration, with emphasis on:

- Accounting
- Banking and Finance
- Economics
- International Business Management
- Marketing

The Bachelor's degree is a three-year and two-summer program of full-time study.

The Department of Business Administration 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 B.B.A. degree must satisfy the following curricula:

A- General Education Requirements
It is strongly believed that B.B.A. graduating 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 breath and depth of education.

B- Core Requirements
All candidates for the B.B.A. degree, irrespective of their area of concentration, must complete the following common core 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
ACO	202	Principles of Accounting II
ACO	311	Managerial Accounting
BAD	201	Fundamentals of Management
BAD	311	Business Law

BAD	315	International Business
BAD	317	Organizational Behavior
BAD	429	Operations Management
BAD	431	Ethics in Business
BAD	433	Business Policy and Strategic Management
BAF	311	Principles of Financial Management I
ECN	211	Principles of Microeconomics
ECN	212	Principles of Macroeconomics
MRK	201	Fundamentals of Marketing
STA	206	Applied Statistics for Business and Economics I
STA	207	Applied Statistics for Business and Economics II

C- Concentration Requirements

Those B.B.A. candidates who have selected an area of concentration should complete certain courses specified by the department. Together with the common core 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 l credit. To earn this credit, the intern should work for at least 120 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.

B- Core Requirements

All candidates for the Bachelor of Hotel Management and Tourism degree have to complete a certain number of courses which provide basic skills and knowledge before they take more advanced courses.

C- Major Requirements

Candidates for the Bachelor of Hotel Management and Tourism degree have to complete twenty-one 3-credit courses specified by the department and two internships to be taken during the summer vacation. These courses are specified on the appropriate page numbers in this catalog.

D- Electives

In addition to the major requirements, candidates have to select three 3-credit courses from a set of courses specified by the department - courses related to their major - and one 3-credit course according to their 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 - M.B.A.

The graduate program of the Faculty of Business Administration and Economics was established in l992. 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.

More specifically, 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.

No courses are offered in the summer.

Instructional methods include lecture, seminar, 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 management.

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
Admission to the graduate program is based on evidence that the applicant will be able to complete successfully the M.B.A. program.

The admission requirements comprise:
- A B.B.A. or an equivalent degree from a recognized institution of higher learning.
- Acceptable scores on both the verbal and quantitative parts of the Graduate Management Admission Test (GMAT)[1].
  Applicants for admission must submit their scores on the GMAT before candidacy can be confirmed. GMAT test can be repeated only once.
- Cumulative GPA of 3.0/4.0 or 12/20.
- Applicants from institutions where English is not the language of instruction, a minimum of 600 in the English Entrance Test.
- Three letters of recommendation.

Applicants' major GPA, relevant work experience, motivation for a career in management, and trend of grades earned during undergraduate education are given due consideration.

The Faculty of Business Administration and Economics also admits to its M.B.A. program students holding Bachelor's degrees other than B.B.A. These students will be asked to take a certain number of preparatory or supplementary courses. These courses include:

ACO 201, ACO 202, BAD 201, BAF 311, ECN 211, ECN 212, MAT 204, MRK 201, STA 206, STA 207.

However, some of these courses may be waived upon the recommendation of the Faculty Curriculum Committee.

Registration Procedure
For registration procedure to the graduate program, see corresponding pages in this catalog.

Graduate Degree Curricula
Candidates for the M.B.A. degree can choose one of the following options:
a- 39 semester hours of work plus a written comprehensive examination.
b- 33 semester hours of work plus a six-credit thesis.
The semester hours of work are divided between required courses and electives.

Students whose undergraduate work does not include mathematics, computer science, and statistics will be required to make up these deficiencies and get a grade of at least "*C*". The credits earned for these courses will not be counted towards the credits required for the graduate program.

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[1] Information about the exact dates of the exam, fees, testing location, and a test registration form can be obtained from AMIDEAST (Ras Beirut Center - P.O.Box 135-155 - Beirut - Lebanon - Phone: 350332 - 340137-345341- Telex Joeint 21665 LE 20680 LE Att. Amideast; Antelias Center-P.O.Box 70-744 Antelias - Lebanon - Phone 411676-410438-411615-Telex: 923-43033 ETERAN LE Att. Amideast. Since the University sends out its acceptances in June, it is wise to take the exam as early as possible to ensure that the University receives the scores in time.

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 following placement on probation.
  - Getting two "*F*"s or three grades below "*B*".
  - Failing the comprehensive examination or the thesis defense twice.

Comprehensive Examination

After completing the required graduate courses, the candidates for the M.B.A. degree must pass a comprehensive examination. This examination is prepared and evaluated by the Department of Business Administration, and the results are submitted to the Dean of the Faculty.

The comprehensive examination is given at the beginning of the Fall and Spring semesters and can be taken only twice.

DEPARTMENT OF BUSINESS ADMINISTRATION

Chairperson: *Mr. Antoine Khalil*
Secretary: *Mrs Carole Habchi*

Associate Professors
Hadjetian, Hratch, Ph.D., 1972, University of Delhi, India,
Economics and Labor-Management Relations.
Karam, Antoine, Ph.D., 1974, Temple University, USA
Economics
Stucky, Katherine Ann, D.B.A., 1986, University of Memphis, USA
Management

Assistant Professors
Bahous, Victor, M.S., 1985, Beirut University College, Lebanon
Accounting
Hamadeh, Mohamed, Ph.D., 1998, Syracuse University, USA
Economics
Harb, Atef, Ph.D., 1996, Ecole Polytechnique de Montreal, Canada
Economics-Operations Research
Khalil, Antoine, M.B.A., 1981, Pace University, USA
Finance
Khoueiri, Roy, M.A., 1983; Syracuse University, USA
Economics
Saber, Rashid, Ph.D., 1998, California Coast University*, USA
Marketing and Management

Senior Lecturers
Barakat, Edgard, M.B.A., 1981, University of Dayton, USA
Marketing
El-Mourhabi, Joud, M.B.A., M.I.B.A., 1987, United States International University,
England
Marketing
Frayha, Norma, M.B.A., 1982, American University of Beirut, Lebanon
Accounting
Hasham, Elham, M.B.A., 1994, Notre Dame University, a.b.d., 1998, USEK, Lebanon;
a.b.d., 1999, Leicester University, UK.
Management, Educational Management
Hovivian, Hrair, M.S., 1984, Beirut University College, Lebanon
Finance and Economics

The Department of Business Administration offers the following undergraduate degree programs.

The Degree of Bachelor of Business Administration (B.B.A.)

The general business administration program 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 core courses provide the students with additional 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 222, ENL 235
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, Political Science, Psychology,
Sociology, etc.
Basic Science Studies
6 credits in: Archeology, Astronomy, Biology, Environmental Science, Health
Geology, Nutrition, etc.

Core Requirements   48 cr.
ACO 201, ACO 202, ACO 311, BAD 201,
BAD 311, BAD 315, BAD 317,
BAD 429, BAD 431, BAD 433, BAF 311,
ECN 211, ECN 212,   MRK 201, STA 206, STA 207.

Major Requirements   25 cr.
BAD 313, BAD 323, BAD 329 or BAD 421, BAD 423,
BAD 425, BAD 427, BAD 482, BAF 312, MAT 204.

Free Electives   6 cr.
                                                           Total: **106 cr.**

Bachelor of Business Administration
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	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.
BAD	313	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.)

ACO	311	Managerial Accounting	3 cr.
BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAD	329	Labor and Social Security Law	
or			
BAD	421	International Business Management	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)

BAD	423	Business Research	3 cr.
BAD	425	Quantitative Techniques for Management	3 cr.
BAD	427	Human Resources 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 313 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, STA 207.

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. *Prerequisites:* BAD 201, BAF 311.

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:* BAD 315.

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. *Prerequisites:* MAT 204, STA 206.

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. *Prerequisites:* MAT 204, STA 206.

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. 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 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 – Accounting Concentration

The accounting concentration program is designed to provide students with the opportunity to acquire the basic and advanced knowledge of accounting theory and practice in addition to the analytic 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.
The program prepares the graduates to enter private or public organizations.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration - Accounting 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 major requirements. These 106 credits are divided into:

Degree Requirements
(106 credits)

General Education Requirements   **27 cr.**
Communication Skills
ENL 222, ENL 235
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.**
ACO 201, ACO 202, ACO 311, BAD 201,
BAD 311, BAD 315, BAD 317,
BAD 429, BAD 431, BAD 433, BAF 311,
ECN 211, ECN 212 , MRK 201, STA 206, STA 207.

Concentration Requirements   **25 cr.**
ACO 313, ACO 321, ACO 323, ACO 325, ACO 411, ACO 413,
ACO 421, ACO 481, BAF 312.

Free Electives   **6 cr.**
                                             Total: **106 cr.**

Bachelor of Business Administration - Accounting Concentration
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.
MRK	201	Fundamentals of Marketing	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

STA	207	Applied Statistics for Business and Economics II	3 cr.
___	___	(GER)	6 cr.

Fall Semester II (15 Credits)

ACO	311	Managerial Accounting	3 cr.
ACO	313	Intermediate Accounting	3 cr.
BAD	311	Business Law	3 cr.
BAF	311	Principles of Financial Management I	3 cr.
___	___	(GER)	3 cr.

Spring Semester II (15 Credits.)

ACO	321	Cost Accounting	3 cr.
ACO	323	Accounting Information Systems	3 cr.
BAD	315	International Business	3 cr.
BAF	312	Principles of Financial Management II	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (7 Credits)

ACO	481	Accounting Internship	1 cr.
BAD	317	Organizational Behavior	3 cr.
___	___	GER	3 cr.

Fall Semester III (15 Credits)

ACO	325	International Accounting	3 cr.
ACO	411	Taxation	3 cr.
BAD	429	Operations Management	3 cr.
BAD	431	Ethics in Business	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

ACO	413	Auditing	3 cr.
ACO	421	Advanced Accounting	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
___	___	GER	3 cr.
___	___	Free Elective	3 cr.

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 for Business Administration students 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, log-term debts and marketable securities. Includes use of accounting software. The passing grade for this course for Business Administration students 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 (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 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 313, CSC 201.

ACO 325 International Accounting (3.0); 3 cr. International dimensions of accounting. Topics covered include: comparative accounting practices; foreign currency translation; accounting for hyperinflation; transfer pricing and taxation; financial reporting and disclosure; international standards and organizations. *Prerequisite:* ACO 202.

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 (3.0); 3 cr. A comprehensive overall view of auditing objectives, principles, standards, and procedures. Also discussion of the professional duties, responsibilities, and ethics of auditors. *Prerequisite:* Senior Standing.

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 423 Current Developments and Issues in Accounting (3.0); 3 cr. An examination of current developments and issues in accounting. *Prerequisite:* Senior Standing.

ACO 481 Accounting Internship 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 120 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration - Banking and Finance Concentration

The successful banker and financial manager in today's environment must possess a variety of skills to keep abreast of the constant changes generated by competitive demand, marketing challenges, and technical complexities. The banking and finance program is designed to meet these requirements and to prepare students for future managerial responsibilities and leadership in the rapidly changing world of finance and banking.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration - Banking and Finance 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 222, ENL 235
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.**
ACO 201, ACO 202, ACO 311, BAD 201, BAD 311, BAD 315, BAD 317, BAD 429, BAD 431, BAD 433, BAF 311, ECN 211, ECN 212, MRK 201, STA 206, STA 207.

Concentration Requirements   **25 cr.**
BAD 323, BAF 312, BAF 315, BAF 321, BAF 431, BAF 433, BAF 435, BAF 437, BAF 481.

Free Electives   **6 cr.**
                                                 Total: **106 cr.**

Bachelor of Business Administration - Banking and Finance Concentration
Suggested Program (l06 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.
MRK	201	Fundamentals of Marketing	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

BAF	311	Principles of Financial Management I	3 cr.
STA	207	Applied Statistics for Business and Economics II	3 cr.
___	___	GER	3 cr.

Fall Semester II (15 Credits)

ACO	311	Managerial Accounting	3 cr.
BAD	311	Business Law	3 cr.
BAD	315	International Business	3 cr.
BAF	312	Principles of Financial Management II	3 cr.
___	___	GER	3 cr.

Spring Semester II (15 Credits.)

BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAF	315	Financial Institutions and Markets	3 cr.
BAF	321	Fundamentals of Investments	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (7 Credits)

BAF	481	Banking and Finance Internship	1 cr.
___	___	GER	6 cr.

Fall Semester III (15 Credits)

BAD	429	Operations Management	3 cr.
BAD	431	Ethics in Business	3 cr.
BAF	431	Commercial Bank Management	3 cr.
BAF	433	International Business Finance	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

BAD	433	Business Policy and Strategic Management	3 cr.
BAF	435	Capital Budgeting	3 cr.
BAF	437	Bank Credit Management	3 cr.
___	___	GER	3 cr.
___	___	Free Elective	3 cr.

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. *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 321 Fundamentals of Investments (3.0); 3 cr. Principles and practices involved in the field of investment. Topics covered include: sources of information; mechanics of purchase, sale and determination of holding period; determination of security prices; capital asset pricing models; portfolio selection problems; investment companies. *Prerequisite:* BAF 312.

BAF 431 Commercial Bank Management (3.0); 3 cr. Analysis of the major policy areas of a commercial bank. Discussion of liquidity, business loans, consumer and credit loans, deposit management, and capital structure in relation to profit objectives and monetary policy environment. Also, discussion of financial competition, international banking, and contemporary issues. *Prerequisites:* ECN 212, BAF 311.

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. *Prerequisite:* BAF 311.

BAF 435 Capital Budgeting (3.0); 3 cr. Capital asset planning and evaluation. Topics covered include: relevant cost concepts for decision making; measuring wealth; cost of capital; measuring cash flows; risk analysis. Illustration of the practical aspects of each of the areas covered by specific cases. *Prerequisites:* BAF 312, STA 207.

BAF 437 Bank Credit Management (3.0); 3 cr. Problems of managing the credit application and follow-up. Use of case studies and lectures to facilitate critical thinking on risk identification, credit policies, standards and procedures with special attention to types of loans and specific lending problems. Also, examination of analytical techniques to assume the role of credit officer. *Prerequisite:* BAF 431.

BAF 443 Case Problems in Financial Management (3.0); 3 cr. A comprehensive course in applied financial management policy and theory. Integration of accounting, management, finance and other business skills in the financial decision making process of the firm. Use of case study and problem solving methods. *Prerequisite:* Senior Standing.

BAF 445 Current Issues in Banking and Finance (3.0); 3 cr. An in-depth study of current issues affecting financial institutions and finance. Topics covered include: government regulations; bank start-ups; mergers; bank competition; interest rate policies; bank automation. *Prerequisite:* Senior Standing.

BAF 481 Banking and Finance Internship l 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 120 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration - Economics Concentration

Economics is known as the study of how consumers, producers and countries allocate scarce productive resources to satisfy their unlimited demands. It requires analytical ability and involves work with abstract models as well as with real-life economic problems. The program is designed to give students a thorough grounding in economic theory and its application to problems found in the contemporary world.

Individuals trained in economics hold responsible positions in a variety of career areas. The Lebanese government, for example, seeks trained people for the Treasury, Central Bank, Ministry of Economy and various other departments and agencies. International positions may be found at the World Bank, the International Monetary Fund, and the United Nations as well as the Lebanese diplomatic service. The business world offers careers in manufacturing, banking, investment, and agriculture, to list but a few. The academic community needs trained teachers for positions in institutions that range from technical business schools to colleges and universities.

While many positions require at least some work after the Bachelor's degree, many career opportunities are open to the graduates in economics. Undergraduates who want to do graduate study in economics need a good mathematics background.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration - Economics 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 222, ENL 235
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.
ACO 201, ACO 202, ACO 311, BAD 201, BAD 311, BAD 315, BAD 317, BAD 429, BAD 431, BAD 433, BAF 311, ECN 211, ECN 212 , MRK 201, STA 206, STA 207.

Concentration Requirements   25 cr.
BAD 323, ECN 321, ECN 323, ECN 431, ECN 433, ECN 437, ECN 439, ECN 481, MAT 204.

Free Electives   6 cr.
                                                    Total: **106 cr.**

Bachelor of Business Administration-Economics Concentration
Suggested Program (l06 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	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)

ACO	311	Managerial Accounting	3 cr.
BAD	311	Business Law	3 cr.
BAF	311	Principles of Financial Management I	3 cr.
ECN	321	Intermediate Microeconomics Analysis	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.
ECN	323	Intermediate Macroeconomics Analysis	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (6 Credits)

___	___	GER	6 cr.

Fall Semester III (15 Credits)

BAD	429	Operations Management	3 cr.
ECN	431	International Economics	3 cr.
ECN	433	Fiscal Theory and Policy	3 cr.
___	___	GER	3 cr.
___	___	Free Elective	3 cr.

Spring Semester III (16 Credits)

BAD	431	Ethics in Business	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
ECN	437	Contemporary Economic Systems	3 cr.
ECN	439	Economics of Developing Countries	3 cr.
ECN	481	Seminar in Economics	1 cr.
___	___	GER	3 cr.

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 Business Administration students 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 Business Administration students is "*C*".

ECN 321 Intermediate Microeconomics 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 structure; factor price determination; welfare implications of marketplace performance. *Prerequisites:* ECN 211, ECN 212.

ECN 323 Intermediate Macroeconomics 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 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 433 Fiscal Theory and Policy (3.0); 3 cr. An examination of fiscal theory and policy. Topics covered include: rationale for public-sector activity and its effects on resource allocation; growth of public sector; concepts of public goods and externalities; different types of taxes; financing of public expenditure; and management of public debt. *Prerequisites:* ECN 321, ECN 323.

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 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 (l.0); l cr. An in-depth study of selected topics in economic theory. 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 - International Business Management Concentration

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 l07 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 222, ENL 235
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, Political Science, Psychology, Sociology, etc.
Basic Science Studies
6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements	**48 cr.**

ACO 201, ACO 202, ACO 311, BAD 201, BAD 311, BAD 315, BAD 317, BAD 429, BAD 431, BAD 433, BAF 311, ECN 211, ECN 212, MRK 201, STA 206, STA 207.

Concentration Requirements	**25 cr.**

ACO 325, BAD 323, BAD 325, BAD 421, BAD 481, BAF 433, ECN 439, MRK 423, MAT 204.

Free Electives	**7 cr.**
Total:	**107 cr.**

Bachelor of Business Administration - International Business Management Concentration
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	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	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)

ACO	311	Managerial Accounting	3 cr.
BAD	311	Business Law	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.)

ACO	325	International Accounting	3 cr.
BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAD	325	International Business Law	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (7 Credits)

BAD	481	International Business Management Internship	1 cr.
___	___	GER	6 cr.

Fall Semester III (15 Credits)

BAD	421	International Business Management	3 cr.
BAD	429	Operations Management	3 cr.
BAD	431	Ethics in Business	3 cr.
ECN	439	Economics of Developing Countries	3 cr.
		GER	3 cr.

Spring Semester III (16 Credits)

BAD	433	Business Policy and Strategic Management	3 cr.
BAF	433	International Business Finance	3 cr.
MRK	423	International Marketing	3 cr.
___	___	GER	3 cr.
___	___	Free Electives	4 cr.

The Degree of Bachelor of Business Administration - Marketing Concentration

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 222, ENL 235
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, Political Science, Psychology,
Sociology, etc.
Basic Science Studies
6 credits in: Archeology, Astronomy, Biology, Environmental Science,
Geology, Health, Nutrition, etc.

Core Requirements   **48 cr.**
ACC 201, ACO 202, ACO 311, BAD 201, BAD 311, BAD 315, BAD 317,
BAD 429, BAD 431, BAD 433, BAF 311, ECN 211, ECN 212, MRK 201,
STA 206, STA 207.

Concentration Requirements   **25 cr.**
BAD 323, MRK 311, MRK 321, MRK 421, MRK 423, MRK 425, MRK 431,
MRK 433, MRK 481.

Free Electives   **6 cr.**
                                               Total: **106**

Bachelor of Business Administration - Marketing Concentration
Suggested Program (l06 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.
MRK	201	Fundamentals of Marketing	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

STA	207	Applied Statistics for Business and Economics II	3 cr.
___	___	GER	6 cr.

Fall Semester II (15 Credits)

BAD	311	Business Law	3 cr.
BAD	315	International Business	3 cr.
BAF	311	Principles of Financial Management I	3 cr.
MRK	311	Consumer Behavior	3 cr.
___	___	GER	3 cr.

Spring Semester II (15 Credits.)

ACO	311	Managerial Accounting	3 cr.
BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
MRK	321	Promotional Strategy	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (7 Credits)

MRK	481	Marketing Internship	1 cr.
___	___	GER	6 cr.

Fall Semester III (15 Credits)

BAD	429	Operations Management	3 cr.
MRK	421	Sales Management	3 cr.
MRK	423	International Marketing	3 cr.
MRK	431	Marketing Research	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

BAD	431	Ethics in Business	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
MRK	425	Business-to-Business Marketing	3 cr.
MRK	433	Marketing Strategies and Policies	3 cr.
___	___	Free Elective	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 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; wholesaler-retailer relationship. *Prerequisite:* 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 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 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. *Prerequisite:* Senior Standing.

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:* Senior Standing.

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:* Senior Standing.

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 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 Master of Business Administration (M.B.A.)

The primary purpose of the Master's program in Business Administration (M.B.A.) is to prepare qualified men and women for positions of leadership in a wide variety of organizations. Although the program is general in orientation, students may acquire some specialization by choosing their elective courses and their thesis topic (in case the thesis option is chosen) in a particular business area.

Graduation Requirements
Students seeking the degree of Master of Business Administration must meet the University graduation requirements and complete a total of 39 credits with an overall average of at least 3.0/4.0. The graduate curricula consists of:

Degree Requirements
(39 credits)

A. Thesis Option
1.- Complete the following required courses: **24 cr.**
BAD 618, BAD 628, BAD 630, BAD 636,
BAD 644, BAD 654, BAD 660, STA 614.
2.- Choose three graduate courses offered by the Faculty   **9 cr.**
3.- Thesis – BAD 690   **6 cr.**

A. Non-Thesis Option
1.- Complete the following required courses: **24 cr.**
BAD 618, BAD 628, BAD 630, BAD 636, BAD 644,
BAD 654, BAD 660, STA 614.
2.- Choose five graduate courses offered by the Faculty   **15 cr.**
3.- Pass a written comprehensive examination on the required courses

Graduate Courses: Business

BAD 610 Advanced Managerial Accounting (3.0); 3 cr. Advanced treatment of inventory planning and control, budgeting, managerial performance measures, decision models and cost behavior patterns. Case study method is used.

BAD 614 Financial Statement Reporting and Analysis (3.0); 3 cr. A study of the role of financial statements and other financial reports in the evaluation of the firm's current and future conditions, and for management decisions. Also, discussion of the methods of preparing and analyzing these reports, and their limitations.

BAD 618 Financial Policies (3.0); 3 cr. An in-depth study of working capital management, cost of capital, capital budgeting, valuation, dividend policy, mergers and acquisition, and long range financial planning.

BAD 620 Investment Analysis (3.0); 3 cr. A study of investment alternatives from the viewpoint of the individual and institutional investors. Also, examination of valuation and use of different financial instruments.

BAD624 International Financial Management (3.0); 3 cr. An examination of the issues in international financial management. Topics covered include: the international monetary system; foreign exchange markets; cost of capital; foreign exchange risk management; capital expenditure analysis for overseas investment; international taxation; international financial markets and instruments.

BAD628 Macroeconomics Analysis for Managers (3.0); 3 cr. Discussion of the behavior of the macroeconomy and macroeconomics issues. Topics covered include: national income analysis; business cycles; investments; consumption; inflation and unemployment; stabilization policies and their effects on the business firm; recent controversies in macroeconomics theory and policy.

BAD 630 Organization Theory (3.0); 3 cr. An in-depth examination of the nature of contemporary complex organizations. Topics covered include: organizational goals; environment and organization; technology and organization; organization change; information and control; power and organizational goals; conflict in organizations; organizations and management; organizational learning; organization structure and employee satisfaction.

BAD 634 Labor-Management Relations (3.0); 3 cr. Discussion of the relationships between unions, workers, management and government. Topics covered include: the industrial relation system; unions; collective bargaining; strikes and dispute settlement; wages; grievances and arbitration; rights of management; employment security; labor legislation.

BAD636 Project Planning and Management (3.0); 3 cr. An examination of the basic tools of project planning and management. Topics covered include: the project management approach; the role of project manager; project evaluation, selection, budgeting, scheduling, resource allocation, and task crushing; project implementation, monitoring and control. A professional computer package will be used.

BAD 638 Human Resources Development and Management (3.0); 3 cr. A comprehensive study of human resources training, development, and management from the perspective of the manager of the firm rather than the specialist.

BAD 640 Comparative Management (3.0); 3 cr. A comparative study of management styles in some countries outside the U.S.. Also, examination of the reasons for their success, and the feasibility of adoption by other countries.

BAD 642 Management Leadership (3.0); 3 cr. An in-depth examination of the traits, skills, and functions of leaders within the work organization. Also, discussion of the role of leadership in total quality improvement process.

BAD 644 Advanced Strategic Management (3.0); 3 cr. An integration of various functional areas of management. Emphasis on strategy formulation and implementation.

BAD646 Seminar in Contemporary Management Issues (3.0); 3 cr. An in-depth exposure of key changes currently occurring in

management, reason for changes, ways to cope with these changes, and future trends.

BAD 650 Multinational Management (3.0); 3 cr. Application of management principles and techniques in a multinational company, and examination of problems of strategy formulation faced by an international manager.

BAD652 Government, Business and Consumer (3.0); 3 cr. An in-depth study of the impact of certain government policies on business and consumers. Also, an examination of business and consumer response to, and influence on, government policies.

BAD 654 Industrial Organization and Public Policy (3.0); 3 cr. An examination of the relationship between market structure, conduct and performance, and public policy. Topics covered include: oligopoly; price discrimination; monopoly; government regulation; cartels; vertical and horizontal integration; inventions, patents and licensing.

BAD 660 Marketing Management (3.0); 3 cr. A study of the integration of product, pricing, promotion, distribution, and sales force policies to fulfill marketing objectives.

BAD 662 Product Development and Management (3.0); 3 cr. An examination of the management of new product development process. Topics covered include: market demand analysis; product concept testing; determination of product features; prototype development; adoption of product strategies; market testing; commercialization.

BAD 666 Advanced Marketing Research (3.0); 3 cr. Advanced quantitative and qualitative research methods for obtaining and analyzing data for marketing decisions. Use of statistical software.

BAD 668 Distribution Management and Logistics (3.0); 3 cr. A study of efficient flow of goods to fulfill production and marketing objectives through integration of transportation, inventory management, order processing, warehousing, packaging, materials handling and acquisition. Also, discussion of transportation strategies.

BAD 670 Marketing Planning (3.0); 3 cr. An examination of the tools and techniques for analysis and decision making for strategic marketing planning.

BAD 690 Thesis 6 cr. Research on a significant problem in business administration selected by the candidate from his/her area of interest.

DEPARTMENT OF HOTEL MANAGEMENT AND TOURISM

Chairperson: *Mr. Youssef Zgheib*
Secretary: *Miss Nidale Tohme*

Assistant Professor
[1]***Evans-Pritchard, Deirdre,*** Ph.D., 1990, UCLA, USA
Tourism

Senior Lecturer
Zgheib, Youssef, M.B.A., 1985; American University of Beirut
Hospitality Management

Instructor
[2]***Assaf, Carole***, M.B.A., 1995, Notre Dame University, Lebanon
Tourism and Marketing

The Degree of Bachelor of Hotel Management and Tourism

Hospitality, travel and tourism are rapidly growing industries. The program of Bachelor of Hotel Management and Tourism is designed to prepare students for professional and executive careers in the hospitality and tourist industries by providing a sound foundation in hotel and restaurant management as well as tourism administration through focused academic coursework and hands-on work experience. It also provides relevant education for persons currently employed in these industries and wishing to upgrade their skills.

Graduation Requirements
Students seeking the degree of Bachelor of Hotel Management and Tourism must complete a total of 104 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 104 credits are divided into:

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[1] Fulbright scholar

[2] As of February 1, 2001

Degree Requirements
(104 credits)

General Education Requirements   **27 cr.**
Communication Skills
ENL 222, ENL 235
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, Political Science, Psychology, Sociology, etc.
Basic Science Studies
6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.

Core Requirements   **21 cr.**
ACO 201, ECN 212, HTM 201, HTM 203, HTM 225, HTM 237, HTM 313.

Major Requirements   **53 cr.**
HTM 211, HTM 281, HTM 311, HTM 314, HTM 320, HTM 323, HTM 325, HTM 333, HTM 351, HTM 381 or HTM 382, HTM 411, HTM 432, HTM 451, HTM 459, NTR 212, STA 206.

Three courses to be chosen from the following:
ACO 202, BAF 312, ECN 211, HTM 340, HTM 342, HTM 343, HTM 344, HTM 345, HTM 346, HTM 347, HTM 349, HTM 413, HTM 443, HTM 445, HTM 447, HTM 449, HTM 460, HTM 462, HTM 485, MRK 311, COA 252, STA 207.

Free Electives   **3 cr.**
         Total: **104 cr.**

Bachelor of Hotel Management and Tourism
Suggested Program (104 Credits)

Fall Semester I (15 Credits)

HTM	201	Introduction to Hospitality Management	3 cr.
HTM	203	Introduction to Travel and Tourism	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
___	___	GER	3 cr.

Spring Semester I (15 Credits)

HTM	211	Law in Hospitality and Tourist Industries	3 cr.
HTM	225	Rooms Division Management	3 cr.
ACO	201	Principles of Accounting	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
___	___	GER	3 cr.

Summer Session I (7 Credits)

HTM	281	Internship I: Rooms Division Operations	1 cr.
HTM	237	Hospitality and Tourism Marketing	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Fall Semester II (15 Credits)

HTM	311	Hospitality Management Accounting	3 cr.
HTM	313	Food Production	3 cr.
HTM	320	EDP (Electronic Data Processing) in the Hospitality Industry	3 cr.
ECN	212	Principles of Macro Economics	3 cr.
NTR	201	Principles of Human Nutrition (GER)	3 cr.

Spring Semester II (15 Credits.)

HTM	314	Human Resources Management in the Hospitality Industry	3 cr.
HTM	323	Restaurant Development and Operations	3 cr.
HTM	325	Domestic Travel and Tourism	3 cr.
NTR	212	Food Sanitation and Safety	3 cr.
ENS	201	Introduction to Environment Science (GER)	3 cr.

Summer Session II (7 Credits)

HTM	333	Catering Management	3 cr.
HTM	381	Internship II: Food and Beverage Operations	1 cr.
or			
HTM	382	Internship III: Travel Agency and Tour Operations	1 cr.
___	___	GER	3 cr.

Fall Semester III (15 Credits)

HTM	351	Food, Beverage and Labor Cost Control	3 cr.
HTM	411	Hospitality Managerial Finance	3 cr.
HTM	451	Hospitality Management	3 cr.
HTM	___	Major Elective	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

HTM	432	Hospitality Property Management	3 cr.
HTM	459	Hospitality Strategic Management and Business Policy	3 cr.
HTM	___	Major Elective	3 cr.
HTM	___	Major Elective	3 cr.
___	___	Free Elective	3 cr.

Undergraduate Courses: Hotel Management And Tourism

HTM 201 Introduction to Hospitality Management (3.0); 3 cr. The course is a comprehensive overview of the lodging, restaurant, institutional food service, club and convention businesses. The course will examine the industry's socio-economic impacts, scope, organization, career opportunities and requirements for success. The student will gain experience in the basic managerial functions and how they relate to the hospitality industry.

HTM 203 Introduction to Travel and Tourism (3.0); 3 cr. This course is an overview of tourism and travel as a global industry. It leads to a solid understanding of its growth, characteristics, operations, organization, environmental impact, destinations development, travel modes, tourism planning and marketing.

HTM 211 Law in Hospitality and Tourist Industries (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. *Prerequisites:* HTM 201 or HTM 203.

HTM 225 Rooms Division Management (3.0); 3 cr. The course acquaints the student with the operations and procedures involved in managing the front office area of a lodging operation. Functions covered include: reservation systems and operations, guest reception, cashiering, guest accounting and income control, uniform service as well as housekeeping operations and management. *Prerequisite:* HTM 201.

HTM 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. *Prerequisites:* HTM 201, HTM 203.

HTM 281 Internship I: Rooms Division Operations l 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. *Prerequisite:* HTM 225.

HTM 311 Hospitality Management Accounting (3.0); 3 cr. The application of accounting principles to the hospitality industry. Accounting practices in use, financial statements, special purpose journals and ledgers. Use of accounting information in making managerial decisions. *Prerequisite:* ACO 201.

HTM 313 Food Production (3.0); 3 cr. An introduction to food production techniques and management. The course is designed to familiarize students with commercial food preparation principles and practices. Management concepts applied to menu planning and writing, quantity food production planning, purchasing, food safety and quality control are also introduced.

HTM 314 Human Resources Management in the Hospitality Industry (3.0); cr. Techniques and philosophies of human resources management as applied to the specific environments within the hospitality industry. In addition to personnel management techniques, exposure will focus on the HRM activities in integration with human behavior in the organization setting and their business implications. *Prerequisites:* HTM 201, HTM 203.

HTM 320 EDP (Electronic Data Processing) in the Hospitality Industry (3.0); 3 cr. An introduction to computerized property management within the hotel and restaurant industry. The course includes a comprehensive understanding of EDP concepts, equipment and

systems requirements, front office and restaurant automation, as well as back-of-the-house systems. Applied software programs are intensively used. *Prerequisite:* CSC 201, *Corequisite:* HTM 225.

HTM 323 Restaurant Development and Operations (3.0); 3 cr. Students systematically plan and develop a restaurant from concept to operations. The course includes concept analysis, feasibility study, food and beverage menus development, technical and architectural planning, pricing; financial, marketing and operational administration within the framework of interdeparmental optimization. An applied project approach is used. *Prerequisite:* HTM 313.

HTM 325 Domestic Travel and Tourism (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 experience in issues of local travel and tourism, organization, development and potentials from a specific destination as well as regional perspective. Field trips and projects are part of this course. *Prerequisite:* HTM 203.

HTM 333 Catering 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:* HTM 313.

HTM 340 Destination Development and Tourism (3.0); 3 cr. Planning, developing or expanding travel and tourism destinations. Market feasibility study, land development, role of government and sustainability are key features of this course. Case studies and project course where students prepare the development and management of a touristic plan for a specific destination.

HTM 342 Travel Agency and Tour Management (3.0); 3 cr. A thorough examination of the basics of retail travel agency operations and tour management. Insights into agency organization, computerization and operations as well as wholesale package preparations, escorting, costing and marketing , then post-tour analysis. Included is the creation, planning and analysis of an individual fully escorted tour.

HTM 343 Purchasing in the Hospitality Industry (3.0); 3 cr. A comprehensive exposure to quantity purchasing for hotel facilities, restaurants and institutions. Methods, procedures and policies for effective purchasing of food, commodities, supplies and equipment are stressed. *Co-requisite*: HTM 333.

HTM 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.

HTM 345 Non-Conventional Food Service I (3.0); 3 cr. Elective course designed as a comprehensive examination of popular trends that affect the food service industry. Students will acquire a thorough understanding of the fast food industry - independent and franchised convenience foods, as well as the institutional food service characteristics, mainly cafeteria, canteens and self-service. Students tackle practical matters related to operations, and particular issues confronting management. *Corequisites:* HTM 323, HTM 333.

HTM 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:* HTM 320.

HTM 347 Non-Conventional Food Service II (3.0); 3 cr. Elective course designed to explore advanced types of food service operations and systems. Characteristics and operation of specialty volume production such as conferences and banqueting, inflight catering and hospital

food service are studied. *Corequisites:* HTM 323, HTM 333.

HTM 349 International Cuisine (3.0); 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. *Prerequisite:* HTM 333.

HTM 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:* HTM 311, HTM 313.

HTM 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. *Prerequisites:* HTM 323 or HTM 333.

HTM 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. *Prerequisites:* HTM 325, HTM 340 or HTM 342 or HTM 344.

HTM 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:* HTM 311.

HTM 413 Advanced Food Production (3.0); 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:* HTM 333, *Corequisite:* HTM 323.

HTM 432 Hospitality Property Management (3.0); 3 cr. Covering the basic technical terminology of hospitality facilities and property management, this course will explain and provide basic decision making models for operation and maintenance of engineering systems relating to the hospitality industry. Safety and security systems are investigated, potential fire hazards are analyzed and appropriate precautionary management of property risk is proposed in the framework of public safety and systems operations.

HTM 443 Alcoholic Beverages Appreciation and Bar Management (3.0); 3 cr. This course provides knowledge and appreciation of the major alcoholic beverages from cultural background to production, evaluation and service. Wine, whisky, arak, beer and spirits are emphasized. A further introduction to coffee, tea and non-alcoholic beverages is provided. Emphasis is also placed on bar planning, operations and management for profitability. Laboratory fee.

HTM 445 Hospitality Environment and Sustainability (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.

HTM 447 Advanced Hospitality 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:* HTM 237.

HTM 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.

HTM 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.

HTM 459 Hospitality and Tourism Strategic Management and Business Policy (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.

HTM 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.

HMT 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.

HTM 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:* HTM 451.

FACULTY OF ENGINEERING (FE)

Dr. Shahwan Khoury, **Dean**

DEPARTMENT OF CIVIL ENGINEERING
Dr. Marcel Georges, *Chairperson*

DEPARTMENT OF ELECTRICAL AND COMPUTER AND COMMUNICATION ENGINEERING
Dr. Sami El Murr, *Chairperson*

DEPARTMENT OF MECHANICAL ENGINEERING
Dr. Walid Assaf, *Chairperson*

FACULTY DIRECTORY

Office of the Dean
Engineering Building, 3rd floor, Room E 311
Tel: 09-218-950/51/52   Extension 2028
e-mail: skhoury@ndu.edu.lb

Department of Civil Engineering
Engineering Building, 3rd floor, Room E 308
Tel: 09-218-950/51/52   Extension 2030
e-mail: mgeorges@ndu.edu.lb

**Department of Electrical and Computer and
Communication Engineering**
Engineering Building, 3rd floor, Room E 301
Tel: 09-218-950/51/52   Extension 2029
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Department of Mechanical Engineering
Engineering Building, 3rd floor, Room E 306
Tel: 09-218-950/51/52   Extension 2032
e-mail: wassaf@ndu.edu.lb

FACULTY OF ENGINEERING

LIST OF FULL-TIME FACULTY MEMBERS

Professor
[1]**Khoury, Shahwan,** Ph.D, 1965, *Electrical Engineering (Applied Space Science)*, Carnegie Institute of Technology, CMU, U.S.A.

Associate Professors
Assaf, Walid, Ph.D., 1965, *Mechanical Engineering,* Iowa State University, U.S.A.
[1]**Helou, Fares A.** , Doctor of Engineering, 1991, *Civil Engineering,* Cleveland State University, U.S.A.

Assistant Professors
Asmar, Ghazi, Ph.D., 1998, *Mechanical and Aerospace Engineering*, University of Missouri, Columbia, USA
Chakar, Elie, Docteur, 1994, *Sciences et techniques du bâtiment,* Ecole Nationale des Ponts et Chaussées, France.
El-Hayek, Michel, Docteur Européen, 1997, *Sciences Appliquées,* Faculté Polytechnique de Mons, Belgium.
El Murr, Sami, Ph.D., 1986, *Electrical Engineering,* Mississippi State University, U.S.A.
Georges, Marcel, Ph.D., 1989, *Civil Engineering,* Rensselaer Polytechnic Institute; New York, U.S.A.
Hamad, Moustafa, Ph.D., 1995, *Electrical Engineering*, University of South Florida, U.S.A.
Nassar, Elias, Ph.D., 1997, *Electrical Engineering*, The Ohio State University, U.S.A.

Laboratory Assistant Instructors
Breidy, George, B.S.E.E., 1990, *Electrical Engineering,* California State University, U.S.A.
Ghanimeh Nissi, Sophia, B.E., 1999, *Civil Engineering*, NDU, Lebanon
Mounsef, Jinane, B.E., 1999, *Computer Engineering*, NDU, Lebanon

List of Staff Members
Elias, Jeanette, B.A., *Advertising and Marketing,* 1996, Notre Dame University, *Administrative Assistant*, *Office of the Dean*.
Kattan, Ghada, Diploma, *ECP-V*, 1995, USEK, *Secretary*
Orfali, Rita, Maitrise, *Sociology*, 2000, Lebanese University, *Secretary*
Serhan, Sana, SGII, 1993, Pigier, *Secretary*

The Faculty of Engineering offers programs in civil engineering, mechanical engineering, electrical engineering and computer and communication engineering leading to the bachelor of engineering.

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[1] On tenure appointment

FACULTY OF ENGINEERING

Dean: *Dr. Shahwan Khoury*
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 judgement 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 to self-maintained and enduring personal and professional development.

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.

Departments

The FE consists of the following departments:

        Department of Civil Engineering
        Department of Electrical and Computer and Communication Engineering
        Department of Mechanical Engineering

DEPARTMENT OF CIVIL ENGINEERING

Chairperson: *Dr. Marcel Georges*
Secretary: *Mrs. Ghada Kattan*

Associate Professor
Helou, Fares A. , Doctor of Engineering, 1991, Cleveland State University, U.S.A.
Civil Engineering

Assistant Professors
Chakar, Elie, Docteur, 1994, Ecole Nationale des Ponts et Chaussées, France.
Sciences et techniques du bâtiment
Georges, Marcel, Ph.D., 1989, Rensselaer Polytechnic Institute; New York, U.S.A.
Civil Engineering

Laboratory Assistant Instructor
Nissi, Sophia Ghanimeh, B.E., 1999, NDU, Lebanon
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.

The Degree of Bachelor of Engineering in Civil Engineering

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 Engineering according the guidelines of the Faculty of Engineering.

Residency Requirements
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 54 credits of upper-division course work including 6 credits of project work.

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.

Registration Requirements
In general, students are not allowed to carry more than 16 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 no less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per term.

Graduation Requirements
To obtain the degree of bachelor of engineering in civil engineering, a student must complete a total of 160 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 electives. In addition, all major requirement courses as well as the elective courses must be successfully completed with a minimum grade of C^-. These 160 credits are divided into:

Degree Requirements
(160 credits)

General Education Requirements   **24 cr.**
ENL 221, ENL 239, ENS 201, NTR 201, and four courses from the following pool[*]:
REG 212, REG 213, ARB 211, ARB 212, ARB 231, HUT 305,
HUT 306, HUT 411, LIR 211, LIR 212, VIA 201, VIA 224, PHO 201

Core Requirements   **37 cr.**
CHM 211, CSC 214, EEN 100, GEO 201, MAT 215, MAT 323,
MAT 339, MEN 101, MEN 210, MEN 320, MEN 400, PHS 203.

Major Requirements   **90 cr.**
CEN 100, CEN 102, CEN 150, CEN 151, CEN 170, CEN 200, CEN 210,
CEN 211, CEN 220, CEN 221, CEN 310, CEN 320, CEN 350, CEN 351,
CEN 352, CEN 360, CEN 362, CEN 390, CEN 400, CEN 430, CEN 431,
CEN 432, CEN 440, CEN 460, CEN 470, CEN 490, CEN 530, CEN 580,
CEN 590, CEN 591, CEN 593,
CSC 270,
MAT 213, MAT 224, MAT 235, MAT 335.

Electives   **9 cr.**
Choose any three courses from the following pool:
CEN 420, CEN 450, CEN 451, CEN 452, CEN 500, CEN 501, CEN 502,
CEN 504, CEN 505, CEN 506, CEN 520, CEN 540, CEN 581, CEN 582,
CEN 592, MAT 333, MEN 500, MEN 505, MEN 507.

Total:	**160 cr.**

[*]Students must take at least one course in Religion and may choose only one course in Arabic as part of their GER.

Bachelor of Engineering in Civil Engineering
Suggested Program (160 Credits)

Year 1

Fall Semester I (16 Credits)

CEN	100	Statics	3 cr.
CEN	170	Engineering Graphics	1 cr.
CHM	211	Principles of Chemistry	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.

Spring Semester I (15 Credits)

CEN	102	Mechanics of Materials	3 cr.
MAT	224	Calculus IV	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
MEN	101	Dynamics	3 cr.
PHS	203	General PhysicsIII	3 cr.

Summer Session I (7 Credits)

CEN	150	Surveying	3 cr.
CEN	151	Field Surveying	1 cr.
___	___	GER	3 cr.

Year 2

Fall Semester II (14 Credits)

CEN	200	Mechanics of Materials Laboratory	1 cr.
CEN	210	Structures I	3 cr.
CSC	214	Fundamentals of Computing for Engineers	3 cr.
CSC	270	Computer Aided Engineering Design	1 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MEN	210	Thermodynamics I	3 cr.

Spring Semester II (16 Credits)

CEN	211	Structures II	3 cr.
CEN	220	Soil Mechanics	3 cr.
GEO	201	Physical Geology	4 cr.
MAT	323	Vector and Tensor Analysis	3 cr.
MAT	335	Partial Differential Equations	3 cr.

Summer Session II (4 Credits)

CEN	221	Soil Mechanics Laboratory	1 cr.
___	___	GER	3 cr.

Year 3

Fall Semester III (15 Credits)

CEN	350	Transportation Engineering I	3 cr.
CEN	390	Engineering Economy	3 cr.
EEN	100	Circuits Analysis I	3 cr.
MAT	339	Numerical Analysis	3 cr.
MEN	320	Fluid Mechanics	3 cr.

Spring Semester III (15 Credits)

CEN	310	Matrix Methods of Structural Analysis	3 cr.
CEN	320	Shallow Foundations	3 cr.
CEN	351	Transportation Engineering II	3 cr.
CEN	360	Hydraulics	3 cr.
CEN	362	Environmental Engineering	3 cr.

Summer Session III (6 Credits)

___	___	GER	3 cr.
___	___	GER	3 cr.

Year 4

Fall Semester IV (15 Credits)

CEN	352	Pavement Materials Laboratory	1 cr.
CEN	400	Advanced Mechanics of Materials	3 cr.
CEN	430	Concrete Design I	3 cr.
CEN	460	Water and Waste Water Networks	3 cr.
CEN	470	Plans and Specifications	2 cr.
___	___	GER	3 cr.

Spring Semester IV (15 Credits)

CEN	431	Concrete Design Laboratory	1 cr.
CEN	432	Concrete Design II	3 cr.
CEN	440	Steel Design	3 cr.
CEN	490	Civil Engineering Project I	2 cr.
MEN	400	Mechanics of Composite Materials	3 cr.
___	___	Elective	3 cr.

Summer Semester IV (6 Credits)

CEN	593	Construction Planning	3 cr.
___	___	GER	3 cr.

Year 5

Fall Semester V (11 Credits)

CEN	530	Prestressed Concrete	3 cr.
CEN	580	Finite Element Methods I	3 cr.
CEN	590	Civil Engineering Project II	2 cr.
___	___	Elective	3 cr.

Spring Semester V (5 Credits)

CEN	591	Civil Engineering Project III	2 cr.
___	___	Elective	3 cr.

Civil Engineering Courses

CEN 100 Statics (3.0); 3 cr. Forces, moments and couples; free body diagrams; problems involving beams, trusses, and various engineering applications.

CEN 102 Mechanics of Materials (3.0); 3 cr. Tension, compression, shear and bending moment diagrams; torsion; stress-strain relationship; stresses in beams; pressure vessel; combined loading and unsymmetric bending; Mohr circles; beam deflections; buckling of columns. *Prerequisite:* CEN 100.

CEN 150 Surveying (3.0); 3 cr. Surveying and instrumentation; Introduction to optical, photographical, 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); 1 cr. 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 210 Structures I (3.0); 3 cr. Structural forms; analysis of structurally determinate structures; moving loads, influence lines; introduction to indeterminate structures. Collapse load 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); 3 cr. Stress-strain relations and properties of soil, seepage and flow nets. Bearing capacity of soils, footings on sand and clay. *Prerequisite:* CEN 102.

CEN 221 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 310 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 320 Shallow Foundations (3.0); 3 cr. Subsurface explorations, methods of exploration and sampling, design of sheeting and bracing systems for shallow foundations. Consolidation theory, settlement analysis.
Prerequisite: CEN 220.

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. *Corequisite:* CEN 390.

CEN 351 Transportation Engineering II (3.0); 3 cr. Road networks supply, traffic demand and forecasts, supply-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 352 Pavement Materials Laboratory (0.2); 1 cr. Related to asphalt proportioning, design and analysis. *Prerequisite:* CEN 351.

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. Water qualities, physical, chemical, and biochemical processes in water purification and treatment; method of treatment and disposal, emphasis on recycling; steam pollution, air pollution; solid waste. *Prerequisites:* MEN 320.

CEN 390 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 400 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 420 Slope Stability (3.0); 3 cr. Slope stability analysis methods. Use of software packages. *Prerequisite:* CEN 320.

CEN 430 Concrete Design I (3.0); 3 cr. Behavior of reinforced concrete, working strength design method. Ultimate strength design method. Design of beams for flexure shear and torsion, one-way slabs, and short columns. *Prerequisite:* CEN 210, or instructor's approval.

CEN 431 Concrete Design Laboratory (0.2); 1 cr. Experiments dealing with concrete properties. *Prerequisite:* CEN 430.

CEN 432 Concrete Design II (3.0); 3 cr. Analysis and design of long columns, two-way slabs using direct and equivalent frame methods, retaining walls, and footings. *Prerequisite:* CEN 430.

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 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. *Prerequisites:* CEN 432, CEN 440.

CEN 460 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 stormwater sewer systems. *Prerequisite:* CEN 360.

CEN 470 Plans and Specifications (2.0); 2 cr. Preparation of building and other civil engineering plans. Plan detailing and presentation. Preparation of plan specifications and bills of quantities. *Prerequisites:* CEN 170, CSC 270.

CEN 490 Civil Engineering Project I (2.0); 2 cr. Individual supervised work in one of the main fields of civil engineering.

CEN 491 Civil Engineering Ethics (2.0); 2 cr. Civil engineering practice as related to environmental destruction and moral behavior.

CEN 500 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 400.

CEN 501 Advanced Elasticity (3.0); 3 cr. Semi-infinite elastic medium and related problems, energy problems, variational methods, columns, beam columns, bending of thin plates, theory of thin shells. *Prerequisite:* CEN 500.

CEN 502 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 500.

CEN 503 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 502.

CEN 504 Experimental Stress Analysis (3.0); 3 cr. Methods of strain measurements and strain determination, brittle coating, electrical resistance gage, photoelastic techniques. *Prerequisite:* CEN 200.

CEN 505 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, beams, columns and plates. *Prerequisite:* CEN 500.

CEN 506 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. *Prerequisites:* CEN 500, MAT 323.

CEN 520 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 530 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 reinforcement. *Prerequisite:* CEN 432.

CEN 540 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 580 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:* MAT 339, or instructor's approval..

CEN 581 Finite Element Methods II (3.0); 3 cr. Solution of advanced three-dimensional stress problems in engineering. *Prerequisite:* CEN 580.

CEN 582 Nonlinear Finite Element Methods (3.0); 3 cr. Isoparametric finite element discretization, incremental equations of motion. Total and updated lagrangian formulation. Nonlinear geometry, nonlinear material problems. Use of software packages for final solutions. *Prerequisite:* CEN 581.

CEN 590 Civil Engineering Project II (2.0); 2 cr. Individual supervised work in one of the main fields of Civil Engineering.

CEN 591 Civil Engineering Project III (2.0); 2 cr. Individual supervised work in one of the main fields of Civil Engineering.

CEN 592 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 310, CEN 432, CEN 440.

CEN 593 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

DEPARTMENT OF ELECTRICAL AND COMPUTER AND COMMUNICATION ENGINEERING

Chairperson: *Dr. Sami El Murr*
Secretary: *Miss Rita Orfali*

Professor
Khoury, Shahwan, Ph.D, 1965, Carnegie Institute of Technology, CMU, U.S.A.
Electrical Engineering (Applied space science)

Assistant Professors
El Murr, Sami, Ph.D., 1986, Mississippi State University, U.S.A.
Electrical Engineering
Hamad, Moustafa, Ph.D., 1995, University of South Florida, U.S.A.
Electrical Engineering
Nassar, Elias, Ph.D., 1997, The Ohio State University, U.S.A.
Electrical Engineering

Laboratory Assistant Instructor
Breidy, George, B.S.E.E., 1990, California State University, U.S.A.
Electrical Engineering
Mounsef, Jinane, B.E., 1999, NDU, Lebanon
Computer 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.

Admission Requirements
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:
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 54 credits of upper-division course work including 3 credits of project work.

Full time students entering the computer and communication engineering program of sophomore standing must complete the listed program within eight years of the date of enrollment in the program.

Registration Requirements:
In general, students are not allowed to carry more than 16 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 not less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per term.

Graduation Requirements:
To receive the degree of bachelor of engineering in computer and communication engineering , a student must complete a total of 160 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 electives. In addition, all major requirement courses as well as elective courses must be successfully completed with a minimum grade of C^-. These 160 credits are divided into:

Degree Requirements
(160 credits)

General Education Requirements   **24 cr.**
ENL 221, ENL 239, ENS 201, NTR 201, REG 212 or REG 213 and 3 courses from the following pool
REG 212, REG 213, [1]ARB 211, ARB 212, ARB 231
HUT 305, HUT 306, HUT 411
LIR 211, LIR 212 or equivalent in other literatures
[2]VIA 201, [3]VIA 224
[4]PHO 201

Core Requirements   **47 cr.**
CHM 211, CSC 211, CSC 212, CSC 312, CSC 313, CSC 316**,** CSC 323, CSC 412, CSC 423,
MAT 213, MAT 215, MAT 224, MAT 339,
PHS 204, PHS 213.

Major Requirements   **83 cr.**
CSC 222, CSC 415, CSC 422, CSC 425,
EEN 100, EEN 101, EEN 102, EEN 210, EEN 211, EEN 212, EEN 213,
EEN 220, EEN 221, EEN 322, EEN 323, EEN 330, EEN 331, EEN 340,
EEN 414, EEN 415, EEN 416, EEN 424, EEN 425, EEN 441, EEN 442,
EEN 543, EEN 544, EEN 545, EEN 570,
MAT 235, MAT 323, MAT 326, MAT 335.

Electives   **6 cr.**
Choose any two courses from the following pool:
CSC 431, CSC 432,
EEN 518, EEN 526, EEN 527, EEN 532, EEN 541, EEN 546, EEN 547,
EEN 548, EEN 549, EEN 567, EEN 568, EEN 581, EEN 582, EEN 583,
EEN 584.

Total: 160 cr.

[1]Students may choose only one course in Arabic as part of their GER.
[2]Students may not choose this course if it is already required in their major.
[3]Students may not choose this course if it is already required in their major.
[4]Students may not choose this course if it is already required in their major.

Bachelor of Engineering in Computer and Communication Engineering
Suggested Program (160 Credits)

Year 1

Fall Semester I (15 Credits)

EEN	100	Circuits Analysis I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.

Spring Semester I (13 Credits)

CSC	211	Fundamentals of Computing Using Pascal	4 cr.
EEN	101	Circuits Analysis II	3 cr.
MAT	224	Calculus IV	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.

Summer Session I (7 Credits)

CSC	212	Program Design and Data Abstraction	3 cr.
EEN	102	Circuits Analysis Laboratory	1 cr.
ENL	239	Technical English for Science (GER)	3 cr.

Year 2

Fall Semester II (16 Credits)

CSC	222	Computer Organization and Assembly Language	3 cr.
EEN	210	Basic Electronics	3 cr.
EEN	220	Introduction to Logic Design	3 cr.
MAT	323	Vector and Tensor Analysis	3 cr.
PHS	204	Applied Mechanics	4 cr.

Spring Semester II (14 Credits)

CHM	211	Principles of Chemistry	3 cr.
CSC	312	Computer Architecture	3 cr.
EEN	211	Basic Electronics Laboratory	1 cr.
EEN	212	Analog Electronics	3 cr.
EEN	221	Logic Design Laboratory	1 cr.
---	---	GER Elective	3 cr.

Summer Session II (7 Credits)

EEN	213	Analog Electronics Laboratory	1 cr.
---	---	GER Elective	3 cr.
PHS	213	Modern Physics	3 cr.

Year 3

Fall Semester III (15 Credits)

CSC	313	Advanced Data Structure Using C++	3 cr.
EEN	322	Digital Electronics	3 cr.
EEN	330	Electromagnetic Fields and Waves I	3 cr.
EEN	340	Signals and Transforms	3 cr.
MAT	335	Partial Differential Equations	3 cr.

Spring Semester III (13 Credits)

CSC	316	Computers Security and Their Data	3 cr.
CSC	323	Object-Oriented Programming in C++	3 cr.
EEN	323	Digital Electronics Laboratory	1 cr.
EEN	331	Electromagnetic Fields and Waves II	3 cr.
MAT	326	Probability and Statistics for Engineering	3 cr.

Summer Session III (6 Credits)

CSC	412	Introduction to Computer Graphics	3 cr.
CSC	415	Introduction to Operating Systems	3 cr.

Year 4

Fall Semester IV (15 Credits)

CSC	422	Introduction to Image Processing	3 cr.
EEN	414	VLSI Design	3 cr.
EEN	424	Microprocessor System Design	3 cr.
EEN	441	Principles of Signal Processing	3 cr.
MAT	339	Numerical Analysis	3 cr.

Spring Semester IV (9 Credits)

CSC	423	Software Engineering	3 cr.
EEN	415	VLSI Design Laboratory	1 cr.
EEN	416	Principles of Semiconductors	3 cr.
EEN	425	Microprocessor System Design Laboratory	1 cr.
EEN	442	Principles of Signal Processing Laboratory	1 cr.

Summer Session IV (6 Credits)

ENS	201	Introduction to Environmental Science (GER)	3 cr.
___	___	Elective	3 cr.

Year 5

Fall Semester V (12 Credits)

CSC	425	Data Communications and Computer Networks	3 cr.
EEN	543	Analog Communication	3 cr.
---	---	GER Elective	3 cr.
REG	212	Religion and Social Issues (GER)	3 cr.

Spring Semester V (12 Credits)

EEN	544	Digital Communication	3 cr.
EEN	545	Fiber Optics Communication	3 cr.
EEN	570	Engineering Project	3 cr.
___	___	Elective	3 cr.

The Degree of Bachelor of Engineering in Electrical Engineering

The Electrical Engineering program promotes the development of high technologies that directly affect the advancement of humanity. Technologies that find applications in households, medical industries and engineering.

Admission Requirements

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

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 54 credits of upper-division course work including 3 credits of project work.

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.

Registration Requirements

In general, students are not allowed to carry more than 16 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 no less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per term.

Graduation Requirements

To receive the degree of bachelor of engineering in electrical engineering, a student must complete a total of 160 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 as well as elective courses. In addition, all major requirement and elective courses must be successfully completed with a minimum grade of C^-. These 160 credits are divided into:

Degree Requirements
(160 credits)

General Education Requirements   **24 cr.**
ENL 221, ENL 239, ENS 201, NTR 201, REG 212 or REG 213   and 3 courses from
the following pool
REG 212, REG 213, [1]ARB 211, ARB 212, ARB 231
HUT 305, HUT 306, HUT 411
LIR 211, LIR 212 or equivalent in other literatures
VIA 201, VIA 224
PHO 201

Core Requirements   **38 cr.**
CHM 211, CSC 211, CSC 212, CSC 222, CSC 313, CSC 314,
MAT 213, MAT 215, MAT 224 , MAT 339,
PHS 204, PHS 213.

Major Requirements   **89 cr.**
EEN 100, EEN 101, EEN 102, EEN 210, EEN 211, EEN 212, EEN 213,
EEN 220, EEN 221, EEN 322, EEN 323, EEN 330, EEN 331, EEN 340,
EEN 351, EEN 416, EEN 424, EEN 425, EEN 441, EEN 442, EEN 450,
EEN 452, EEN 453, EEN 454, EEN 460, EEN 461, EEN 543, EEN 544,
EEN 555, EEN 556, EEN 562, EEN 570.
MAT 235, MAT 323, MAT 326, MAT 333, MAT 335.

Electives   **9 cr.**
Choose any three courses from the following pool:
EEN 518, EEN 526, EEN 527, EEN 532, EEN 541, EEN 546, EEN 547, EEN 548,
EEN 549, EEN 567, EEN 568, EEN 581, EEN 582, EEN 583, EEN 584,

[1]Students may choose only one course in Arabic as part of their GER.

Bachelor of Engineering in Electrical Engineering
Suggested Program (160 Credits)

Year 1

Fall Semester I (16 Credits)

CSC	211	Fundamentals of Computing Using Pascal	4 cr.
EEN	100	Circuits Analysis I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.

Spring Semester I (12 Credits)

CSC	212	Program Design and Data Abstraction	3 cr.
EEN	101	Circuits Analysis II	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.

Summer Session I (7 Credits)

EEN	102	Circuits Analysis Laboratory	1 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	224	Calculus IV	3 cr.

Year 2

Fall Semester II (16 Credits)

CSC	222	Computer Organization and Assembly Language	3 cr.
EEN	210	Basic Electronics	3 cr.
EEN	220	Introduction to Logic Design	3 cr.
MAT	323	Vector and Tensor Analysis	3 cr.
PHS	204	Applied Mechanics	4 cr.

Spring Semester II (14 Credits)

CHM	211	Principles of Chemistry	3 cr.
CSC	313	Advanced Data Structure Using C++	3 cr.
EEN	211	Basic Electronics Laboratory	1 cr.
EEN	212	Analog Electronics	3 cr.
EEN	221	Logic Design Laboratory	1 cr.
---	---	GER Elective	3 cr.

Summer Session II (7 Credits)

EEN	213	Analog Electronics Laboratory	1 cr.
MAT	333	Complex Analysis	3 cr.
PHS	213	Modern Physics	3 cr.

Year 3

Fall Semester III (15 Credits)

CSC	314	Programming Languages	3 cr.
EEN	322	Digital Electronics	3 cr.
EEN	330	Electromagnetic Fields and Waves I	3 cr.
EEN	340	Signals and Transforms	3 cr.
MAT	335	Partial Differential Equations	3 cr.

Spring Semester III (13 Credits)

EEN	323	Digital Electronics Laboratory	1 cr.
EEN	331	Electromagnetic Fields and Waves II	3 cr.
EEN	351	Electrical Machinery	3 cr.
MAT	326	Probability and Statistics for Engineering	3 cr.
---	---	GER Elective	3 cr.

Summer Semester III (6 Credits)

MAT	339	Numerical Analysis	3 cr.
---	---	GER Elective	3 cr.

Year 4

Fall Semester IV (13 Credits)

EEN	424	Microprocessor System Design	3 cr.
EEN	441	Principles of Signal Processing	3 cr.
EEN	450	Principles of Power Engineering	3 cr.
EEN	452	Electrical Machinery Laboratory	1 cr.
EEN	460	Feedback Control	3 cr.

Spring Semester IV (14 Credits)

EEN	416	Principles of Semiconductor Devices	3 cr.
EEN	425	Microprocessor System Design Laboratory	1 cr.
EEN	442	Principles of Signal Processing Laboratory	1 cr.
EEN	453	Power System Analysis	3 cr.
EEN	461	Digital Control	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.

Summer Session IV (4 Credits)

EEN	454	Power System Laboratory	1 cr.
REG	212	Religion and Social Issues (GER)	3 cr.

Year 5

Fall Semester V (15 Credits)

EEN	543	Analog Communication	3 cr.
EEN	555	Power Electronics	3 cr.
EEN	570	Engineering Project	3 cr.
___	___	Electives	6 cr.

Spring Semester V (8 Credits)

EEN	544	Digital Communication	3 cr.
EEN	556	Power Electronics Laboratory	1 cr.
EEN	562	Control Systems Laboratory	1 cr.
___	___	Elective	3 cr.

Electrical Engineering and
Computer and Communication Engineering Courses

EEN 100   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.

EEN 101 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. *Prerequisites:* EEN 100.

**EEN 102 Circuits Analysis Laboratory (0.2);
1 cr.** Introduction to circuit laboratory
instruments, Ohm's, Kirchhoff 's laws. Mesh,
Nodal, Superposition, Thevenin's.   RC, RL,
RLC networks, Op-amps. *Prerequisite:* EEN
100. *Corequisite:* EEN 101

EEN 210 Basic Electronics (3.0); 3 cr.
Conduction in Semiconductors.   Properties,
operation and biasing of PN junction diodes,
bipolar junction and field-effect transistors.
Large and small signal models. *Prerequisite:*
EEN 101.

**EEN 211 Basic Electronics Laboratory (0.2);
1 cr.** Experiments based on EEN 210.
Pre*requisite:* EEN 210.

EEN 212 Analog Electronics (3.0); 3 cr.
Operational and small-signal models of diodes,
junction and field-effect transistors.   Single-
stage and multistage amplifiers: Gain, biasing,
and frequency response.   Feedback. Op-amp
circuits: Amplifiers, rectifiers, oscillators,
Design problem. *Prerequisite:* EEN 210.

**EEN 213 Analog Electronics Laboratory
(0.2); 1 cr.** Laboratory experiments and design
project based on EEN 212. *Prerequisite:* EEN
212.

**EEN 220 Introduction to Logic Design (3.0);
3 cr.** Binary and non-binary systems. Boolean
algebra.   Digital design techniques.   Logic
gates, logic minimisation, standard
combinational circuits, sequential circuits, flip-
flops, synthesis of synchronous sequential
circuits, PLA's, ROM's, RAM's arithmetic
circuits. CAD. *Corequisite*: EEN 210

EEN 221 Logic Design Laboratory (0.2); 1 cr.
Logic gates, logic minimisation, SP, PS forms,
standard combinational circuits, sequential
circuits, flip-flops, synthesis and design of
synchronous and asynchronous sequential
circuits, PLA's, PAL's, ROM's, RAM's.
Prerequisite: EEN 220.

EEN 322 Digital Electronics (3.0); 3 cr. Basic
logic families. MSI and LSI logic circuits.
Memory circuits. Transistor switching logic.
Shmitt trigger circuits and voltage comparators.
Monostables, Astables. *Prerequisites:* EEN 210,
EEN 220.

**EEN 323 Digital Electronics Laboratory
(0.2); 1 cr.**   Digital design laboratory
experiments and project based on EEN 322, and
EEN 220. *Corequisite:* EEN 322.

**EEN 330 Electromagnetic Fields and Waves I
(3.0); 3 cr.** Electrostatic field. Coulomb's law.
Gauss's law. Electric potential conductors.
Dielectric media.   Capacitance. Boundary
problems. Magnetic field. Biot-Savare law.
Ampere's law. Faraday's law. Inductance.
Maxwell's equation.   Magnetic media, waves
equation. Uniform plane wave. *Prerequisites:*
MAT 323, MAT 335.

**EEN 331 Electromagnetic Fields and Waves
II (3.0); 3 cr.**   Applications of Maxwell's
equations.   Helmholtz equations. Poynting
theorem. Theory and application of
electromagnetic waves. Plane wave
propagation and polarisation. Reflection,
refraction, and attenuation in various media.
TEM transmission lines: Lumped model, ABCD
matrix analysis and time-domain analysis.
Smith's chart and impedance matching. Wave
guides. Introduction to antennas. *Prerequisite:*
EEN 330..

EEN 340 Signals and Transforms (3.0); 3 cr.
Basic concepts in linear system theory.
Analysing 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 Fourier transform. Introduction to z-transforms. *Prerequisite:* EEN 101.

EEN 351 Electrical Machinery (3.0); 3 cr. Magnetic circuits. Transformers: Construction type and performance. Electromechanical energy conversion. Basic concepts of rotating machines. DC/AC and induction machines. Analysis and performance. Performance curves. Design considerations. Efficiency. *Prerequisite:* EEN 330.

EEN 414 VLSI Design (3.0); 3 cr. Design techniques of VLSI circuits. MOS technology Structured design. Design rules. Layout procedures. Design aids. Layout design rule checking . Logic and circuit simulation. Timing, testability. *Prerequisite:* EEN 322.

EEN 415 VLSI Laboratory (0.2); 1 cr. Laboratory for EEN 414.

EEN 416 Principles of Semiconductor devices (3.0); 3 cr. Energy bands Carrier concentration and transport phenomena. Generation recombination processes. Continuity equation. PN junction, Bipolar, Unipolar, Microwave and Photonic devices. Introduction to semiconductor fabrication. *Prerequisite:* EEN 330.

EEN 417 Circuit Synthesis and Design(3.0); 3 cr. Positive real functions. Hurwitz polynomials. Synthesis of one- and two-port networks. Linear active two-ports. Inductorless two-ports. Synthesis of distributed networks. Transducer and active filters. Function generators. Oscillators. D/A converters. *Prerequisite:* EEN 212.

EEN 424 Microprocessor System Design (3.0); 3 cr. Microprocessor internal architecture. Registers, CPU, memory organisation. Instructions, execution and timing. Interfacing with peripherals. Interrupts. Designing and Interfacing with state of the art microprocessors. Assembly language programming. *Prerequisite*: EEN 220.

EEN 425 Microprocessor System Design Laboratory (0.2); 1 cr. Design project related to the course EEN 424.

EEN 441 Principles of 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. Correlation and spectral estimation. *Prerequisite:* EEN 340.

EEN 442 Signal Processing Laboratory (0.2); 1 cr. Digital filtering techniques. Architectural feature of single-chip DSP processors. Design project. *Prerequisite:* EEN 441.

EEN 450 Principles of Power Engineering (3.0); 3 cr. Power distribution and transmission. Electrical and Mechanical considerations of transmission cables and underground cables. Superconductors. Power system modelling. *Prerequisite:* EEN 331.

EEN 452 Electrical Machinery Laboratory (0.2); 1 cr. Laboratory experiments involving different settings of various electrical machines. *Prerequisite:* EEN 351.

EEN 453 Power System Analysis(3.0); 3 cr. Power system modelling. Load flow studies. Reactive power compensation and voltage control. Economic operation. Symmetrical and unsymmetrical short circuit studies. *Prerequisite:* EEN 450.

EEN 454 Power System Laboratory (0.2); 1 cr. Measurements of losses in transmission lines. Voltage drop. Steady state operation of an infinite bus generator systems. Stability of electric power systems. Short circuit measurements. *Prerequisite:* EEN 453.

EEN 460 Feedback Control (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 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 460.

EEN 518 Active Filter (3.0); 3 cr. Systematic analysis and design for active filters; Filters approximation and synthesis techniques. Monolithic integrated filters. Computer simulation verification. Include a design project. *Prerequisite:* EEN 212.

EEN 526 Neural Networks (3.0); 3 cr. Principals of neural networks, architecture and circuit implementations.

EEN 527 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 these to hardware. Machine language programming for monitoring and control applications. Include a design project. *Prerequisite:* EEN 424.

EEN 532 Antenna Engineering (3.0); 3 cr. Introduction to antenna performance parameters, analysis of radiation from sources using Maxwell's equations, theory and design of wire antennas, arrays and frequency independent antennas; computer methods for antenna design. *Prerequisite:* EEN 331.

EEN 533 Lasers (3.0); 3 cr. Theory and applications of lasers in the medical field. *Prerequisite:* EEN 330.

EEN 541 Communication Systems Laboratory (0.2); 1 cr. Introduction to Amplitude Modulation. Fault Detection in DSB and SSB Systems; FM Modulators 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). *Prerequisite:* EEN 544.

EEN 543 Analog Communication (3.0); 3 cr. Mathematical analysis of 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. Analysis of signal-to-noise ratio. Application to radio and television. *Prerequisites:* EEN 340, MAT 325.

EEN 544 Digital Communication (3.0); 3 cr. Digital transmission techniques with application to computer and space communications. Digital modulation. Equalisers. 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 543.

EEN 545 Fiber Optics 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 fibres. Switching and modulation by integrated optics techniques. *Prerequisite:* EEN 331, EEN 544.

EEN 546 Advanced Signal Processing (3.0); 3 cr. Advanced techniques in signal processing. Windowing, the short time signal processing. Non stationary signals. Time/frequency analysis STFT. The wavelet transform. *Prerequisite: EEN 441.*

EEN 547 Algebraic Coding and Information Theory (3.0); 3 cr. Information theory and its relation to statistics. Kolomogrov complexity, entropy and inference. Shannon theory of communication. Source coding for noisy channels. Capacity theorems for multiple user channels. *Prerequisite:* EEN 544.

EEN 548 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 544.*

EEN 549 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 340.

EEN 555 Power Electronics (3.0); 3 cr. Switching power supplies. AC power controllers. Controlled rectifiers. DC choppers and DC-AC converters. Bridge structure inverters. *Prerequisite:* EEN 450.

EEN 556 Power Electronics Laboratory (0.2); 1 cr. Laboratory for EEN 555. *Corequisite:* EEN 555.

EEN 562 Control Systems Laboratory (0.2); 1 cr. Laboratory based on EEN 460 and EEN 461. *Prerequisite:* EEN 461.

EEN 567 Power System Protection (3.0); 3 cr. Current and voltage transformers and protection. Relays, circuit breakers and fuses. *Prerequisite:* EEN 453.

EEN 568 Power Plant Engineering (3.0); 3 cr. Generation of electric power and various types of power plants. *Prerequisite:* EEN 453

EEN 570 Engineering Project (3.0); 3 cr. Project design (approved by instructor) involving one of the major EEN or CCE areas.

EEN 581 Industrial Electrification (3.0); 3 cr. Lighting systems. Emergency and auxilliary power systems. *Prerequisite:* EEN 450.

EEN 582 Biomedical Instrumentation (3.0); 3 cr. Design consideration for clinical and health care devices. Design of biomedical devices. It involves analog, digital and microprocessor/microcontroller based designs. Design of monitoring devices. *Prerequisite:* EEN 424.

EEN 583 Clinical Engineering (3.0); 3 cr. Introduction to major devices and units in the hospital and health-care environments. Theory of the clinical devices and units and basic circuitry. Preventive maintenance and safety control.

EEN 584 Medical Imaging (3.0); 3 cr. Medical imaging techniques and their application. *Prerequisite:* EEN 330.

DEPARTMENT OF MECHANICAL ENGINEERING

Chairperson: *Dr. Walid Assaf*
Secretary: *Miss Sana Serhan*

Associate Professor
Assaf, Walid, Ph.D., 1965, Iowa State University, U.S.A,
Mechanical Engineering.

Assistant Professors
Asmar, Ghazi, Ph.D., 1998, University of Missouri, Columbia, USA,
Mechanical and Aerospace Engineering.
El-Hayek, Michel, Docteur Européen, 1997, Faculté Polytechnique de Mons, Belgium
Sciences Appliquées.

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 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 54 credits of upper-division course work including 4 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.

Registration Requirements
In general, students are not allowed to carry more than 16 credits per term, nor more than 6 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 not less than 3.2/4.0 may be permitted to carry a maximum load of 18 credits per term.

Graduation Requirements

To receive the degree of bachelor of engineering in mechanical engineering, a student must complete a total of 162 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 electives. In addition, all major requirement courses must be successfully completed with a minimum grade of C⁻. These 162 credits are divided into:

Degree Requirements
(162 credits)

General Education Requirements   **24 cr.**
ENL 221, ENL 239, ENS 201, NTR 201, REG 212 or 213.
Choose any three courses from the following pool :
REG 212 or 213, ARA 211, ARA 212, ARA 231, HUT 305,
HUT 306, HUT 411, LIR 211, LIR212 or equivalent in other literatures,
VIA 201, VIA 224, PHO 201

Core Requirements   **36 cr.**
CHM 211, CEN 390, CEN 580, CSC 214,
EEN 100, EEN 101,
MAT 323, MAT 339,
MEN 400,
PHS 203, PHS 212, PHS 213.

Major Requirements   **90 cr.**
CEN 100, CEN 102, CEN 170, CEN 200, CEN 400,
CSC 270,
MAT 213, MAT 215, MAT 224, MAT 235, MAT 335,
MEN 101, MEN 200, MEN 210, MEN 211, MEN 310, MEN 320,
MEN 321, MEN 325, MEN 330, MEN 335, MEN 340, MEN 360,
MEN 410, MEN 430, MEN 431, MEN 435, MEN 437, MEN 439,
MEN 440, MEN 460, MEN 510, MEN 515, MEN 520, MEN 560.

Electives   **12 cr.**
Choose any four courses from the following pool:
MEN 500, MEN 503, MEN 505, MEN 507, MEN 517, MEN 521,
MEN 540, MEN 550.

                                              Total: **162 cr.**

Bachelor of Engineering in Mechanical Engineering
Suggested Program (162 Credits)

Year 1

Fall Semester I (13 Credits)

CEN	100	Statics	3 cr.
CEN	170	Engineering Graphics	1 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.

Spring Semester I (15 Credits)

CEN	102	Mechanics of Materials	3 cr.
MAT	224	Calculus IV	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
MEN	101	Dynamics	3 cr.
PHS	203	General Physics III	3 cr.

Summer Session I (6 Credits)

___	___	GER Elective	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.

Year 2

Fall Semester II (14 Credits)

CEN	200	Mechanics of Materials Laboratory	1 cr.
CSC	214	Fundamentals of Computing for Engineers	3 cr.
CSC	270	Computer Aided Engineering Design	1 cr.
EEN	100	Circuits Analysis I	3 cr.
MEN	200	Science of Materials	3 cr.
MEN	210	Thermodynamics I	3 cr.

Spring Semester II (15 Credits)

EEN	101	Circuits Analysis II	3 cr.
MAT	323	Vector and Tensor Analysis	3 cr.
___	___	GER Elective	3 cr.
MAT	335	Partial Differential Equations	3 cr.
MEN	211	Thermodynamics II	3 cr.

Summer Session II (6 Credits)

CHM	211	Principles of Chemistry	3 cr.
PHS	212	Electricity and Magnetism	3 cr.

Year 3

Fall Semester III (14 Credits)

CEN	400	Advanced Mechanics of Materials	3 cr.
MEN	320	Fluid Mechanics I	3 cr.
MEN	325	Thermo/Fluid Laboratory	1 cr.
MEN	330	Mechanical Vibrations	3 cr.
MEN	360	Engineering Graphics II	1 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.

Spring Semester III (15 Credits)

MEN	310	Heat Transfer	3 cr.
MEN	321	Fluid Mechanics II	3 cr.
MEN	335	Mechanical Design I	3 cr.
MEN	340	Manufacturing Processes	3 cr.
PHS	213	Modern Physics	3 cr.

Summer Session III(6 Credits)

NTR	201	Basic Human Nutrition (GER)	3 cr.
REG	212	Religion and Social Issues (GER)	3 cr.

Year 4
Fall Semester IV (15 Credits)

CEN	390	Engineering Economy	3 cr.
MAT	339	Numerical Analysis	3 cr.
MEN	430	Theory of Machines	3 cr.
MEN	435	Automated Controls	3 cr.
MEN	437	Mechanical Design II	3 cr.

Spring Semester IV (14 Credits)

MEN	400	Mechanics of Composite Materials	3 cr.
MEN	410	Internal Combustion Engines	3 cr.
MEN	431	Mechanical Engineering Laboratory	1 cr.
MEN	439	Engineering Instrumentation	2 cr.
MEN	460	Senior Project I	2 cr.
___	___	Elective	3 cr.

Summer Session IV (3 Credits)

MEN	440	Computer Aided Design and Manufacturing	3 cr.

Year 5
Fall Semester V (14 Credits)

CEN	580	Finite Elements Methods I	3 cr.
MEN	510	Energy Conversion	3 cr.
MEN	520	Fluid Power Control	3 cr.
MEN	560	Senior Project II	2 cr.
___	___	Elective	3 cr.

Spring Semester V (12 Credits)

MEN	515	Heating, Refrigeration and Air Conditioning	3 cr.
___	___	GER Elective	3 cr.
___	___	Electives	6 cr.

Mechanical Engineering Courses

MEN 101 Dynamics (3.0); 3 cr. Dynamics of particles and rigid bodies; linear and angular motion; work and energy; Single degree of freedom vibration analysis. *Prerequisite:* CEN 100.

MEN 200 Science of Materials (3.0); 3 cr. Atomic structure; elastic, plastic, and viscoelastic behavior; hardening and strengthening processes; mechanical failure; Material systems.

MEN 210 Thermodynamics I (3.0); 3 cr. Concepts of work and heat. Closed and open systems, the fundamental laws of thermodynamics. Entropy and entropy production; heat engines, heat pumps, coefficients of performance.

MEN 211 Thermodynamics II (3.0); 3 cr. Irreversibility and availability. Power and refrigeration cycles. Maxwell's equations. Properties of mixtures, thermodynamics of combustion and chemical equilibrium. Introduction to statistical thermodynamics. *Prerequisite:* MEN 210.

MEN 310 Heat Transfer (3.0); 3 cr. A study of the fundamentals of conduction, convection, and thermal radiation energy transfer. Steady and unsteady states of heat conduction in one and two-dimensions. Heat transfer in laminar and turbulent boundary layers. *Prerequisite:* MEN 211.

MEN 320 Fluid Mechanics I (3.0); 3 cr. Fluid properties, fluid statics, kinematics of fluid flow, energy equation. Volume control concept, flow resistance. Introduction to boundary layer theory. *Prerequisite:* MEN 210.

MEN 321 Fluid Mechanics II (3.0); 3 cr. Navier-Stokes equations. One- and two-dimensional gas dynamics. Convergent and divergent nozzles. Normal and oblique shocks. *Prerequisite:* MEN 320.

MEN 325 Thermo/Fluid Laboratory (0.2) 1 cr. Experiments related to heat transfer and fluid mechanics. Thermal conductivity, convectivity, radiation heat transfer and

refrigeration cycles. Flow in pipes, laminar and turbulent flow. *Corequisites:* MEN 321, MEN 310.

MEN 330 Mechanical Vibrations (3.0); 3 cr. Equations of motion. Lagrange's equations and Raleigh's method. Force vibration for damped and undamped systems. Single and multiple degree of freedom for vibration systems. *Prerequisite:* MEN 101.

MEN 335 Mechanical Design I (3.0); 3 cr. Introduction to mechanical components design. Concepts in design; Failure modes under dynamic loading; Failure prevention principles. *Prerequisite:* CEN 400.

MEN 340 Manufacturing Processes (3.0); 3 cr. Fundamentals of processing typical industrial materials including casting, heat treating, welding, and machining. *Prerequisites:* CEN 170, MEN 200.

MEN 360 Engineering Graphics II (0.2); 1 cr. Drawing of detail and assembly drawings for machine parts, threaded fasteners, keys, springs, gears and cams, welding and riveting of steel structure. *Prerequisite:* CEN 170

MEN 400 Mechanics of Composite Materials (3.0); 3 cr. Introduction to micromechanics, lamina and laminate mechanical properties. Mechanical and hydrothermal behavior of composite laminate. Strength of composite materials. *Prerequisite:* CEN 400.

MEN 410 Internal Combustion Engines (3.0); 3 cr. A study of combustion chambers, valve mechanisms and the dynamic balance of internal combustion engines. *Prerequisites:* MEN 211, MEN 321.

MEN 430 Theory of Machines (3.0); 3 cr. Kinematics of machinery, linkages, cams, and gears. Static and dynamic balancing and force analysis of machinery. *Prerequisite:* MEN 101.

MEN 431 Mechanical Engineering Laboratory (0.3); 1 cr. Continuation of Thermo/Fluid Laboratory. Experiments in

compressible flow, internal combustion engines, vibrations and control. *Prerequisite:* MEN 325.

MEN 435 Automated Controls (3.0); 3 cr. Development of control systems. Transfer function. Block and signal flow diagrams. Error considerations   Ruth- Hurwitz criterion, root locus, and Bode-plot techniques. *Prerequisite:* MEN 330.

MEN 437 Mechanical Design II (3.0); 3 cr. Advanced design of machine elements. Overall system reliability. Interchangebility of mechanical devices. Stress-strain relationship in mechanical elements configuration. *Prerequisite:* MEN 335.

MEN 439 Engineering Instrumentations (2.0); 2 cr. Measurement statistics: Standard deviation, curves of regression. Transduction of mechanical information into analog and digital signals. Computer simulation studies.

MEN 440 Computer Aided Design and Manufacturing (3.0); 3 cr. Introduction to computer graphical software and hardware. Input and output devices. Generation of points, vectors, windowing, rotation, 3-D modeling and transformations. Hidden lines and surface removal. Computer-aided linkage and machine element design. *Prerequisites:* CSC 270, MEN 335.

MEN 460   Senior Project I (2.0); 2 cr. Individual work in one of the main fields of mechanical engineering.

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 theorems of structural mechanics. Ritz method, weight residual methods, finite element method. *Prerequisite:* CEN 400.

MEN 503 Theory of Elasticity (3.0); 3 cr. Stress and strain tensors. Generalized Hooke's law. Plane stress and strain problems. Formulation of elasticity problems. Thermal stresses. Energy principles and variational methods. Approximation techniques. *Prerequisite:* CEN 400.

MEN 505 Theory of Plates and Shells (3.0); 3 cr. Thin plate theory, formulation of bending equations for rectangular and circular plates, variational formulation. Von Karma plate theory, buckling of thin plate. Membrane and bending stresses in shells. *Prerequisite:* CEN 400.

MEN 507 Fracture Mechanics (3.0); 3 cr. Failure modes of isotropic and anisotropic materials. Crack propagation in two and three dimension. Stress singularities. *Prerequisite:* CEN 400.

MEN 510 Energy Conversion (3.0); 3 cr. Direct conversion of thermal, solar, wind, and electrical energies. *Prerequisite:* MEN 310.

MEN 515 Heating, Refrigeration and Air Conditioning (3.0); 3 cr. Heating cooling loads calculations. Design of piping and duct systems. Domestic hot and cold water system. *Prerequisite:* MEN 321.

MEN 517 Solar Energy (3.0); 3 cr. Use of solar energy for heating of buildings, domestic hot water and low temperature processes. Direct, diffuse and ground reflected solar radiation, sun angles, active and passive solar thermal engineering, flat plate collector design, heat storage design, economics of solar heating. *Prerequisite:* MEN 310.

MEN 520 Fluid Power Control (3.0); 3 cr. Introduction to fluid power; pneumatic devices; fluidic devices. Hydraulic system components. Dynamic performance of power system; fluid logic. *Prerequisite:* MEN 320.

MEN 521 Viscous Flow and Boundary Layers (3.0); 3 cr. Introduction to molecular and macroscopic transport, concepts of stress and strain and derivation of the Navier-Stokes equations. Application to problems of diffusion boundary layers, and slow motion. Analytic and numerical methods are presented. *Prerequisite:* MEN 321.

MEN 540 Robots and Manipulators (3.0); 3 cr. Classification, design and analysis of robots and manipulators. Basic kinematics and dynamics of robots manipulators. Machine elements for robotic applications. *Prerequisite:* MEN 435.

MEN 550 Computational Methods in Thermal and Fluid Mechanics (3.0); 3 cr. Navier-Stokes Equations. Numerical analysis. Finite difference approximations, error and stability analysis, numerical dispersion and damping, matrix inversion methods. Implicit and explicit procedures. *Prerequisites:* MEN 321, MAT 335.

MEN 560 Senior Project II (2.0); 2 cr. Continuation of MEN 460.

FACULTY OF HUMANITIES (FH)

Dr. Boulos Sarru, **Dean**

DEPARTMENT OF ENGLISH, TRANSLATION AND EDUCATION
Dr. Naji Oueijan, *Chairperson*

DEPARMENT OF MASS COMMUNICATION
Dr. Khalid Fakih, *Chairperson*

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES
Dr. Doumit Salameh, *Chairperson*

FACULTY DIRECTORY

Office of the Dean
Pink Building, 3rd Floor, Room 332
Tel: 09–218–950/51/52 Extension 2423
e-mail: bsarru@ndu.edu.lb

Department of English, Translation and Education
Pink Building, 3rd Floor, Room 334
Tel: 09–218–950/51/52 Extension 2425
e-mail: nouijan@ndu.edu.lb

Department of Mass Communication
Pink Building, 3rd Floor, Room 335
Tel: 09–218–950/51/52 Extension 2427
e-mail: kfakih@ndu.edu.lb

Department of Social and Behavioral Sciences
Pink Building, 3rd Floor, Room 337
Tel: 09–218–950/51/52 Extension 2429
e-mail: sbs@ndu.edu.lb

FACULTY OF HUMANITIES

LIST OF FULL-TIME FACULTY MEMBERS

Professors
Melki, Henry, Ph.D., 1972, *Linguistics,* Georgetown 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
[1]*Eid, Assad,* Doctorate, 1986, *Applied Linguistics and TEFL,* Université Saint-Joseph
Fakih, Khalid, Ph.D., 1992, *Journalism,* University of Missouri, USA
Oueijan, Naji, Ph.D., 1985, *English Literature,* Baylor University, USA
Ghaleb, Mary, Ph.D., 1993, *Foreign Language Education*, University of Texas at Austin, USA.
Salameh, Doumit, Ph.D., 1988, *Philosophy,* St. Louis University, USA

Assistant Professors
Abou-Chedid, Kamal, Ph.D., 1997, *Education*, Manchester University, USA
Ajami, Joseph, Ph.D., 1987, *Mass Communication,* Ohio University-Athens, USA
Alam, Edward, Ph.D., 1996, *Philosophy,* University of Utah; Salt Lake City, USA
Bahous, Jocelyne, Doctorate 1ère Catégorie, 1998, *Philosophie et Science Humaines,* Université du Saint-Esprit Kaslik, Lebanon
Darouny, Kamal, M.A., 1986, *Marketing and Advertising,* Sussex College of Technology, England
Donerian, Vatche, M.A., 1987, *Theater and TV Directing,* Yerevan State Institute of Dramatic and Fine Arts, Armenia
Eid, Mansour, Doctorate, 1985, *Arabic Language and Literature,* Université Saint-Joseph; Lebanon
Hammoud, Mahmoud, Ph.D., 1992, *Mass Communication,* Ohio University-Athens, USA
Jahshan, Paul, Ph.D., 2000, *American Studies*, Nottingham University-Nottingham, UK.
Kfouri, Carol, Doctorate 1ère Categorie, 1997, *Philosophie et Sciences Humaines,* Université du Saint-Esprit Kaslik, Lebanon
Matar, Suhail, C.A.P.E.S., 1969, *Arabic Language and Literature,* Université Libanaise, Lebanon
Sabieh, Christine, Doctorate 1ère Catégorie, 1998, *Philosiphie et Sciences Humaines,* Université du Saint-Esprit Kaslik, Lebanon
Samra, Sami, Doctorate 1ère Catégorie, 1999, *Philosophie et Science Humaines,* Université du Saint-Esprit Kaslik, Lebanon
Semaan, Ingrid, Ph. D., 1978, *English Literature,* University of Iowa, USA.
Yaacoub, Youssef, Ph.D., 1990, *Education,* Loyola University of Chicago, USA
Yazigi, Amal, Ph.D., 1992, *Applied Linguistics*, Leicester University, England

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[1] On tenure appointment

Senior Lecturers

Malek, Amal, MAT, 1993, M.A., *Teaching,* Fairleigh Dickinson University, New Jersey, USA

O'Donnell, Theresa, M.A., 1990, *Language & Literature*, Aberdeen University, Scotland.

Lecturers

Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology,* Université Libanaise, Lebanon

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

Khoury, Mary, M.A., 1995, *English Language and Literature,* Université Libanaise, Lebanon

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

Instructors

Bassil, Janet, MBA, 1996, *International Affairs*, NDU, English Laboratory

Hajj, Michael, M.A., 1997, *English Literature,* NDU, English Laboratory-OCP

Van Loan, Amira, M.A. 1995, *TESL,* The American University, Washington D.C., USA

Studio Instructor

Azar, Antoine, DES, 1980, Universite des Sc.& Tech. de Lille, *Electronique*, R/TV Studio

Studio Associate

Gunstone, Anthony, Certificate, 1981, King Eggbert Institute-Sheffield, R/TV Studio Associate

Studio Assistants

Lahoud, Sam, B.A., 1997, *RadioTV*, NDU, Zouk Mosbeh

Saade, Rania, B.A., 1999, *RadioTV*, NDU, Zouk Mosbeh

Staff Members

Chemaly, Wassil, B.A., *Advertising & Marketing*, 1998, NDU, Secretary, Mass Communication Department.

Eid, Alice, Secretarial Studies, 1992, Bechara Technical School, Zouk Mikael.

Khoury Nancy, B.A., *Translation and Interpretership*, 1997, NDU, Secretary, Social & Behavioral Sciences.

Mady, Rose, Secretarial Studies, YWCA, 1985, Lebanon, Administrative Assistant to the Dean.

Sarkis, Diane, Secretarial Diploma, 1977, C.M.C.College-Ras Beirut, Secretary, English Department

FACULTY OF HUMANITIES

Dean: *Dr. Boulos Sarru*
Administrative Assistant: *Mrs. Rose Mady*

The Faculty of Humanities consists of 3 Departments: The Department of English and Education, the Department of Mass Communication and the Department of Social and Behavioral Sciences.

Degrees Offered
The Faculty of Humanities offers programs leading to the degrees of:

Bachelor of Arts in English
Bachelor of Arts in Translation and Interpretership
Bachelor of Arts in Education:
> Early Childhood
> Learning Disabilities
> Education of the Gifted
> School Counseling
> Education of the Handicapped

Bachelor of Arts in Physical Education and Sport
Teaching Diploma

Master of Arts in English Literature
Master of Arts in Applied Linguistics and TEFL
Master of Arts in Translation and Interpretership

Bachelor of Arts in Communication Arts-Journalism concentration
Bachelor of Arts in Communication Arts-Radio/TV concentration
Bachelor of Arts in Advertising and Marketing

Master of Arts in Media Studies
> Advertising
> Electronic Media
> Journalism

Bachelor of Arts in Arabic Language and Literature
Master of Arts in Arabic Language and Literature

Bachelor of Arts in Clinical Psychology
Bachelor of Arts in Educational Psychology
Bachelor of Arts in Industrial Psychology

DEPARTMENT OF ENGLISH, TRANSLATION AND EDUCATION

Chairperson: *Dr. Naji Oueijan*
Secretary: *Mrs. Diana Sarkis*

Professors
Melki, Henry*, Ph.D., 1972, Georgetown University, USA
Linguistics
Sarru', Boulos, Ph.D., 1979, Indiana University, USA
English and American Studies

Associate Professors
Eid, Assad, Doctorate, 1986, Université Saint-Joseph
Applied Linguistics and TEFL
Ghaleb, Mary, Ph.D., 1993, University of Texas at Austin, USA.
Foreign Language Education
Oueijan, Naji, Ph.D., 1985, *English Literature,* Baylor University, USA

Assistant Professors
Abou-Chedid, Kamal, Ph.D., 1997, Manchester University, USA
Education
Bahous, Jocelyne, Doctorate 1ère Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon
Philosophie et Sciences Humaines
Jahshan, Paul, Ph.D., 2000, Nottingham University-Nottingham, UK.
American Studies
Kfouri, Carol*, Doctorate 1ère Categorie, 1997, Université du Saint-Esprit Kaslik, Lebanon
Philosophie et Sciences Humaines
Sabieh, Christine, Doctorate 1ère Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon
Philosiphie et Sciences Humaines
Samra, Sami, Doctorate 1ère Categorie, 1999, Saint Esprit-Kaslik, Lebanon.
Philosophie et Sciences Humaines
Yazigi, Amal, Ph.D., 1992, Leicester University, England
Applied Linguistics

Senior Lecturers
Malek, Amal, M.A.T., 1993, M.A., Fairleigh Dickinson University, New Jersey, USA
Teaching
O'Donnell, Theresa, M.A., 1990, Aberdeen University, Scotland.
Language & Literature

Lecturers
Abou-Jawdeh, Simon, D.E.S., 1992, Université Libanaise, Lebanon
Psychology
Akkari, Juliet, M.A., 1971, American University of Beirut, Lebanon
TEFL

Khoury, Mary, M.A., 1995, Université Libanaise, Lebanon
English Language and Literature
Samrani, Diana, M.A., 1990, Andrews University of Michigan, USA
Education

Instructors
Bassil, Janet, MBA, 1996, NDU, English Laboratory
International Affairs
Hajj, Micheal, M.A., 1997, Notre Dame University, Lebanon
English Litterature
Van Loan, Amira, M.A. 1995, The American University, Washington D.C., USA
TESL

The Department of English , Translation and Education offers the following degree programs:

    B.A. in Education
    B.S. in Physical Education and Sports
    Teaching Diploma
    Teaching Certificate.
    B.A. in English – Applied Linguistics
    B.A. in English – Literature
    B.A. in Translation and Interpretership
    M.A. in Applied Linguistics and TEFL
    M.A. in English Literature
    M.A. in Translation and Interpretership

In addition, the Department offers an Intensive English Program and a Communication Skills Program.

Teaching Diploma

The purpose of the Teaching Diploma program is to prepare school teachers. The value of such preparation lies in the fact that a large number of school teachers, in all cycles, are not scientifically trained to teach. College graduates who might later teach in a school will also find this program invaluable.

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, Sciences or Social Sciences, students must select one of the following sets:

1.EDU 351, EDU 431, EDU 461 (English)
2.EDU 352, EDU 432, EDU 462 (Mathematics)
3.EDU 353, EDU 433, EDU 463 (Sciences)
4.EDU 354, EDU 434, EDU 464 (Social Sciences)
5.EDU 358, EDU 438, EDU 468 (Arabic).

The Teaching Certificate

Like the Teaching Diploma, 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 for school teachers who are already teaching in a school but do not hold a university degree. It prepares them to teach elementary classes only.

Admission Requirements

To qualify for admission, a candidate must hold a Lebanese Bacc. II or equivalence. 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 take 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\

The Degree of Bachelor of 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. Ed. - Early Childhood program will prepare students to work with pre-school pupils, preparing them with proper activities reinforcing positive attitudes towards the school.

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.**
ENL 222, ENL 223, ARB 211 or ARB 231, REG 212 or REG 213,
CSC 201, NTR 201, ENS 201
Choose 6 credits from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201, SOL 301

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.**
Group I: EDU 212 or EDU 301 or EDU 321 (3 credits)
Group II: 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)
Group III: EDU 401 or SOL 312 (3 credits)

Free Electives   **5 cr.**

                                                        Total: 105 cr.

Bachelor of Education - Early Childhood
Suggested Program (105 credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	201	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	GER	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
REG	212 or 213	GER	3 cr.
ENS	201	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	3 cr.
___	___	Group II	3 cr.
___	___	Free Elective	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT 411	or SOL 313	Aesthetics or: Family Violence and Child Abuse	3 cr.
___	___	Group III	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	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	3 cr.
___	___	Free Elective	2 cr.

Group I (3 cr.)	EDU 212/301/321
Group II (12 cr.)	EDU 361/362/402/420/421/422/430/450
Group III (3 cr.)	EDU 401/SOL 312

The Degree of Bachelor of 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. Ed. - Learning Disabilities program will prepare students to work with pupils who are inflicted with learning disabilities, such as dyslexia, which adversely affect their academic performance.

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.**
ENL 222, ENL 223, ARB 211 or ARB 231, REG 212 or REG 213,
CSC 201, NTR 201, ENS 201
Choose 6 credits from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201, SOL 301

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: **18 cr.**

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)

Free Electives   **5 cr.**
                                            Total: 105 cr.

Bachelor of Education - Learning Disabilities
Suggested Program (105 credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	201	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	GER	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
REG	212 or 213	GER	3 cr.
ENS	201	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	3 cr.
___	___	Group II	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT 411 or SOL 313		Aesthetics or: Family Violence and Child Abuse	3 cr.
___	___	Group III	3 cr.

Fall Semester III (15 Credits)

EDU	422	Learning and Behavioral Difficulities of Children	3 cr.
EDU	460	Elementary Teaching Practicum I	3 cr.
___	___	Group III	3 cr.
___	___	Free Elective	3 cr.

Spring Semester III (12 Credits)

EDU	430	Tests, Measurement and Evaluation: Elemntary Level	3 cr.
EDU	470	Elementary Teaching Practicum II	3 cr.
EDU	480	Elementary Teaching Internship	1 cr.
___	___	Group III	3 cr.
___	___	Free Elective	2 cr.

Group I (3 cr.)	EDU 212/302/325
Group II (3 cr.)	EDU 321/342
Group III (9 cr.)	EDU 362/402/412/413/420/421/451
Group IV (3 cr.)	EDU 401/SOL 312

The Degree of Bachelor of 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. Ed. - Education of the Gifted program will prepare 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.**

ENL 222, ENL 223, ARB 211 or ARB 231, REG 212 or REG 213,
CSC 201, NTR 201, ENS 201
Choose 6 credits from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201, SOL 301

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.**
Group I: EDU 330 or EDU 331 (3 credits)
Group II: 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)
Group III: EDU 401 or EDU 412 (3 credits)

Free Electives	**5 cr.**
Total:	**105 cr.**

Bachelor of Education - Education of the Gifted
Suggested Program (105 credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	201	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	GER	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
REG	212 or 213	GER	3 cr.
ENS	201	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	3 cr.
___	___	Group II	6 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT 411 or SOL 313		Aesthetics or: Family Violence and Child Abuse	3 cr.
___	___	Free electives	3 cr.

Fall Semester III (15 Credits)

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 I	3 cr.
___	___	Group II	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 III	3 cr.
___	___	Free Elective	2 cr.

Group I (3 cr.)	EDU 330/331
Group II (12 cr.)	EDU 301/311/321/324/402/413/420/421/422
Group III (3 cr.)	EDU 401/412

The Degree of Bachelor of 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. Ed. - School Counseling program will prepare 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.**
ENL 222, ENL 223, ARB 211 or ARB 231, REG 212 or REG 213,
CSC 201, NTR 201, ENS 201
Choose 6 credits from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201, SOL 301

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.**
Group I: EDU 322 or EDU 323 (3 cr.)
Group II: EDU 330 or EDU 331 (3 cr.)
Group III: EDU 355 or EDU 356 or EDU 357 (3 cr.)
Group IV: EDU 413 or EDU 421 or EDU 422 or EDU 450 (6 cr.)
Group V: EDU 351 or EDU 401 or EDU 412 (3 cr.)

Free Electives   **5 cr.**

     Total: 105 cr.

Bachelor of Education - School Counseling
Suggested Program (105 credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	201	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	GER	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
REG	212 or 213	GER	3 cr.
ENS	201	GER	3 cr.

Fall Semester II (15 Credits)

EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
EDU	343	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	3 cr.
___	___	Group II	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
EDU	420	Crisis Intervention	3 cr.
HUT 411 or SOL 313		Aesthetics or: Family Violence and Child Abuse	3 cr.

Fall Semester III (15 Credits)

EDU	324	Counseling in Special Education	3 cr.
EDU	402	Foundations of Counseling Services	3 cr.
___	___	Group III	3 cr.
___	___	Group IV	3 cr.
___	___	Free Elective	3 cr.

Spring Semester III (12 Credits)

EDU	451	Clinical Assessment in Schools	3 cr.
EDU	487	Counseling/Guidance Internship	1cr.
___	___	Group IV	3 cr.
___	___	Group V	3 cr.
___	___	Free Elective	2 cr.

Group I (3 cr.)	EDU 322/323
Group II (3 cr.)	EDU 330/331
Group III (3 cr.)	EDU 355/356/357
Group IV (6 cr.)	EDU 443/421/422/450
Group V (3 cr.)	EDU 351/401/412

The Degree of Bachelor of 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. Ed. - Education of the Handicapped program will prepare students to work with the handicapped professionally, by providing them with the necessary methodology and techniques, as well as the 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.
ENL 222, ENL 223, ARB 211 or ARB 231, REG 212 or REG 213,
CSC 201, NTR 201, ENS 201
Choose 6 credits from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201, SOL 301

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.
                                                         Total: **105 cr.**

Bachelor of Education - Education of the Handicapped
Suggested Program (105 credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	201	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	GER	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
REG	212 or 213	GER	3 cr.
ENS	201	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	3 cr.
___	___	Group II	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT 411 or SOL 313		Aesthetics or: Family Violence and Child Abuse	3 cr.
___	___	Group III	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	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 cr.
___	___	Free Elective	2 cr.

Group I (3 cr.)	EDU 330/331
Group II (12 cr.)	EDU 301/321/325/344/361/412/420
Group III (3 cr.)	EDU 401/SOL 312

The Degree of Bachelor of Physical Education and Sport

The Department of Education offers a program leading to a Bachelor degree in Physical Education and Sport. The program is designed to train students in professional development, skill development, teaching/coaching methods, private/corporate fitness, and general physical therapy. This major includes both theoretical and practical courses.

Admission Requirements
In order to be admitted to the program, candidates must pass the academic entrance examinations required by the Faculty of Humanities (EET and Sophomore Comprehensive test), a medical exam and a fitness test

Graduation Requirements
To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credit 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:

Options: Students majoring in Physical Education and Sports can choose between one of the two options as follows:

Degree Requirements
(105 credits)

OPTION I: Sports, Recreation, Training and Coaching:

General Education Requirements:	**24 cr.**

ENL 222, ARB 211 or ARB 231, REG 212 or REG 213,
BIO 211, NTR 201, ENS 201, NTR 212, SOL 201 or SOL 301

Core Requirements	**30 cr.**

PSL 201 or PSL 211 , BIO 214, BIO 215, PES 201,
PES 202, PES 301, PES 425, EDU 201, EDU 213, EDU 214

Major Requirements	**30 cr.**

PES 203, PES 251, PES 252, PES 358,
PES 414, PES 421, PES 422, PES 423, PES 491, EDU 420

Major Electives	**14 cr.**

2 out of PES 311, 312, 313 (2 cr.)
2 out of PES 314, 315, 316 (2 cr.)
2 out of PES 317, 319, 320, 323 (2 cr.)
2 out of PES 318, 322, 324 (4 cr.)
1 out of PES 321 and 325 (1 cr.)
1 out of PES 356 and 357 (3 cr.)

Free Electives	**7 cr.**
Total:	**105 cr.**

Degree Requirements
(105 credits)

OPTION II: Physical Therapy and Kinesiology:

General Education Requirements: **24 cr.**
ENL 222, ARB 211 or ARB 231, REG 212 or REG 213,
BIO 211, NTR 201, ENS 201, NTR 212, SOL 201 or SOL 301

Core Requirements   **30 cr.**
PSL 201 or PSL 211 , BIO 214, BIO 215, PES 201,
PES 202, PES 301, PES 430, EDU 201, EDU 213, EDU 214

Major Requirements   **33 cr.**
PES 203, PES 251, PES 252, PES 351, PES 352, PES 360,
PES 414, PES 423, PES 424, PES 470, PES 472

Major Electives   **12 cr.**
2 out of PES 311, 312, 313, 314, 315, 316 (2 cr.)
3 out of PES 317, 319, 320, 321, 325 (3 cr.)
2 out of PES 318, 322, 324 (4 cr.)
1 out of EDU 420, 421 (3 cr.)

Free Elctives   **6 cr.**
                                            Total: 105 cr.

Bachelor of Physical Education and Sport
Suggested Program (105 Credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
ARB	211	Appreciation of Arabic Literature	3 cr.
or			
ARB	231	Technical Arabic	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Spring Semester I (15 Credits)

PSL	201	Introduction to Psychology	3 cr.
	or		
PSL	211	Psychology of the Young Child	3 cr.
BIO	211	General Biology I	4 cr.
EDU	213	Human Growth and Development	3 cr.
PES	201	Introduction to Physical Education	3 cr.
___	___	Sports Electives	2 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
___	___	GER	3 cr.
___	___	Survey of American Lit.	3 cr.

Fall Semester II (14 Credits)

PES	202	History of Physical Education	3 cr.
BIO	214	Anatomy	3 cr.
PES	203	Introduction to Physical Therapy	3 cr.
NTR	212	Food Sanitation and Safety (GER)	3 cr.
___	___	Sports Electives	2 cr.

Spring Semester II (14 Credits)

PES	251	Motor Learning	3 cr.
PES	301	Anatomical Kinesiology	3 cr.
BIO	215	Introductory Human Physiology	3 cr.
___	___	Sports Electives	2 cr.
___	___	Free Elective	3 cr.

Option I: Sports, Recreation, Training and Coaching
Summer II (8 credits)

PES	252	Athletic Injuries	3 cr.
PES	358	Physiology of Exercise	3 cr.
___	___	Sports Electives	2 cr

Fall Semester III (15 Credits)

PES	414	Alcohol, Tobacco, and Drugs	3 cr.
PES	421	Coaching	3 cr.
PES	422	Biomechanics	3 cr.
PES	425	Adapted Physical Education	3 cr.
___	___	Sports Electives	3 cr.

Spring Semester III (15 Credits)

EDU	420	Crisis Intervention	3 cr.
PES	423	Dynamic Fitness	3 cr.
PES	491	Senior Project	3 cr.
___	___	Sports Electives	3 cr.
___	___	Free Elective	3 cr.

Option II: Pre-physical Therapy & Kinesiology

Summer II (8 credits)

PES	252	Athletic Injuries	3 cr.
PES	351	Devt. of Motor Control	3 cr.
___	___	Sports Electives	2 cr

Fall Semester III (15 Credits)

PES	414	Alcohol, Tobacco, and Drugs	3 cr.
PES	352	Exercise & Mental Health	3 cr.
PES	360	Consumer Health	3 cr.
PES	470	Lab I: Kinesiology	3 cr.
___	___	Sports Electives	3 cr.

Spring Semester III (15 Credits)

PES	423	Dynamic Fitness	3 cr.
PES	424	Therapeutic Use of Exercise	3 cr.
PES	472	Lab II: Kinesiology	3 cr.
PES	430	Evaluation in PE	3 cr.
___	___	Sports Electives	3 cr.

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. *Prerequisite:* ENL 107.

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. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* EDU 201.

EDU 302 Introduction to the Education of the Mentally Retarded (3.0); 3 r. Involves the diagnosis, classification, learning potential, and general characteristics of the retarded child. *Prerequisite:* 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. *Prerequisite*: 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. *Prerequisite:* EDU 201.

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. *Prerequisite* 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. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* EDU 313.

EDU 325 The Needs of the Retarded (3.0); 3 cr. Is designed to develop awareness of the educational needs of the retarded and the competencies to meet those needs. *Prerequisite* 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. *Prerequisite:* EDU 313.

EDU 331 Curriculum Development and Evaluation: Secondary (3.0); 3 cr. Same as EDU 330 but emphasizes the secondary level. *Prerequisite:* EDU 313.

EDU 332 Curriculum Development and Evaluation: Early Childhood (3.0); 3 cr. Same as EDU 330 but emphasizes early childhood. *Prerequisite:* EDU 313.

EDU 333 Curriculum Development and Evaluation: the Disabled (3.0); 3 cr. Same as EDU 330 but emphasizes students with learning disabilities. *Prerequisite:* 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. *Prerequisite:* EDU 313.

EDU 342 Instructional Strategies for the Handicapped (3.0); 3 r. Provides techniques for teaching the handicapped, such as basic stimulus control, positioning, eating, toileting, etc. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* EDU 201.

EDU 350 Methods of Teaching: Elementary (3.0); 3 cr. Provides principles and techniques of language, arithmetic, and science teaching in the elementary classes. *Prerequisite:* 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. *Prerequisite:* EDU 313.

EDU 352 Methods of Teaching Mathematics (3.0); 3 cr. Examines methods of teaching mathematics: educational objectives, mathematical logic and teaching aids. *Prerequisite:* 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. *Prerequisite:* EDU 313.

EDU 354 Methods of Teaching Social Studies (3.0): 3 cr. Deals with different approaches to teaching history, geography and civics. *Prerequisite:* 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. *Prerequisite* EDU 313.

EDU 356 Methods of Teaching: the Handicapped (3.0); 3 cr. Methods for handicapped students: curriculum needs, teaching techniques and behavior management. *Prerequisite:* EDU 313.

EDU 357 Methodology of Teaching: Learning Disabilities (3.0); 3 cr. Introduces dimensions of learning disabilities: identification, characteristics, development, habilitation. *Prerequisite:* EDU 313.

EDU 358 Methods of Teaching Arabic (3.0); 3 cr. Examines methods of teaching Arabic: educational objectives, language skills and teaching aids.

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 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 in 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 Handicapped (3.0); 3 cr. Discusses relevant laws pertaining to the handicapped.

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. *Prerequisite:* EDU 430.

EDU 461 English Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of English. Part I. *Prerequisite:* EDU 431.

EDU 462 Mathematics Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but involves the teaching of mathematics. Part I. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* EDU 434.

EDU 465 Early Childhood Teaching Practicum I (1.2); 3 cr. Same as EDU 460 but deals with teaching in the early childhood level. Part I. *Prerequisite:* EDU 430.

EDU 466 Teaching of the Handicapped Practicum I (1.2); 3 cr. Same as EDU 460 but deals with the teaching of the handicapped. Part I. *Prerequisite:* 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. *Prerequisite:* EDU 460.

EDU 471 English Teaching Practicum II (1.2); 3 cr. Similar to EDU 461. Part II. *Prerequisite:* EDU 461.

EDU 472 Mathematics Teaching Practicum II (1.2); 3 cr. Similar to EDU 462. Part II. *Prerequisite:* EDU 462.

EDU 473 Science Teaching Practicum II (1.2); 3 cr. Similar to EDU 463. Part II. *Prerequisite:* EDU 463.

EDU 474 Social Studies Teaching Practicum II (1.2); 3 cr. Similar to EDU 464. Part II. *Prerequisite:* EDU 464.

EDU 475 Early Childhood Teaching Practicum II (1.2); 3 cr. Similar to EDU 465. Part II. *Prerequisite:* EDU 465.

EDU 476 Teaching of the Handicapped Practicum II (1.2); 3 cr. Similar to EDU 466. Part II. *Prerequisite:* EDU 466.

EDU 478 Arabic Teaching Practicum II (1.2) 3 cr. Similar to EDU 468 Part II. *Prerequisite:* 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 Handicapped 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.

Udergraduate Courses: Physical Education and Sport

PES 201 Introduction to PE (3.0); 3 cr. Nature, aims, motivation and profession. *Prerequisite:* ENL 105.

PES 202 History of PE (3.0); 3 cr. Egyptian, Phoenician, Greek and Roman; later developments till the modern age. *Prerequisite:* ENL 105.

PES 203 Introduction to Physical Therapy (3.0); 3 cr. The discipline of physical therapy, opportunities, and responsibilities. *Prerequisite:* ENL 105.

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); 1 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 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 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 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 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 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.

The Intensive English Program

A student who does not score the required average for admission may apply for the Intensive English Program. He/she will be placed in English 002 (a 15-hour course).

The Communication Skills Program

This program is offered at two levels: Freshman and Sophomore.
Freshman English: ENL 105, ENL 107, ENL 109, ENL 110
Sophomore English: ENL 221, ENL 222, ENL 223, ENL 232, ENL 235, ENL 236, ENL 239.

The Degree of Bachelor of Arts in English - Applied Linguistics

The English major has a dual purpose:
It helps students obtain that mastery of the English language which is now necessary in most non-teaching careers.
It provides the necessary background required by those who intend to engage in teaching English language and/or literature and to pursue graduate studies in both fields. For the students with an emphasis in language, fields of study include language vocabulary and structure, with courses in morphology, syntax and semantics, together with historical linguistics, applied linguistics, and literature. For students with an emphasis in literature, fields of study include introductions to literary genres, British and American literary surveys, novel, drama, poetry and literary criticism.

Graduation Requirements
Students majoring in English must meet the General Education Requirements and successfully complete a total of 103 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 each of both ENL 222 and ENL 223. The 103 credits are divided into:

Degree Requirements
(103 credits)

General Education Requirements   **27 cr.**
ENL 222, ENL 235, REG 212 or REG 213,
ARB 211 or ARB 231, CSC 201, NTR 201, ENS 201
plus two of the following:
HIT 211, HUT 305, PHL 311, POS 201,
PSL 201, SOL 201 or SOL 301.

Core Requirements   **39 cr.**
ENL 223, ENL 301, ENL 311, ENL 312, ENL 313,
LIR 211, LIR 212, LIR 213, LIR 301, LIR 302,
LIR 303, HUT 306, EDU 201.

Major Requirements   **21 cr.**
ENL 314, ENL 411, ENL 412, ENL 413, ENL 414,
ENL 415, ENL 416.

Plus 3 courses from the following pool: **9 cr.**
Language : ENL 315.
Literature : LIR 304, LIR 311, LIR 312, LIR 313
Education : EDU 313, EDU 343, EDU 350, EDU 430

Free electives   **7 cr.**

                 Total: **103 cr.**

Bachelor of Arts in English - Applied Linguistics
Suggested Program (103 Credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
___	___	GER	9 cr.

Spring Semester I (15 Credits)

ENL	235	Technical English for Business	3 cr.
ENL	301	Intro. Study of Lang.	3 cr.
ENL	311	English Phonetics	3 cr.
LIR	211	Survey of English Literature	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

___	___	GER	3 cr.
HUT	306	GER	3 cr.
LIR	213	Sur. of American Lit.	3 cr.

Fall Semester II (15 Credits)

LIR	212	Sur. of Engl. Lit. II	3 cr.
LIR	301	Intro. to Fiction	3 cr.
LIR	302	Intro. to Poetry	3 cr.
ENL	312	Morphology	3 cr.
ENL	313	Syntax	3 cr.

Spring Semester II (15 Credits)

LIR	303	Intro. to Drama	3 cr.
ENL	314	Engl. Vocab.	3 cr.
EDU	201	Intro. to Edu.	3 cr.
ENL	411	Hist. of Engl. Lang.	3 cr.
___	___	Pool Course	3 cr.

Summer Session II (9 Credits)

___	___	GER	6 cr.
___	___	Free Electives	3 cr.

Fall Semester III (15 Credits)

ENL	412	Phonology	3 cr.
ENL	413	Adv. English Grammar	3 cr.
___	___	Pool Courses	9 cr.

Spring Semester III (10 Credits)

ENL	414	Sociolinguistics I	3 cr.
ENL	415	Applied Linguistics	3 cr.
ENL	416	Language Theories	3 cr.
___	___	Free Electives	1 cr.

The Degree of Bachelor of Arts in English Literature

Graduation Requirements
Students majoring in English Literature must meet the General Education Requirements and successfully complete a total of 103 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 each of both ENL 222 and ENL 223. The 103 credits are divided into:

Degree Requirements
(103 credits)

General Education Requirements   **27 cr.**
ENL 222, ENL 235, REG 212 or REG 213, ARB 211 or ARB 231, CSC 201,
NTR 201, ENS 201
plus two of the following:
HIT 211, HUT 305, HUT 306, PHL 311, POS 201, PSL 201, SOL 201 or
SOL 301.

Core Requirements   **39 cr.**
ENL 223, ENL 301, ENL 311, ENL 312, ENL 313,
LIR 211, LIR 212, LIR 213, LIR 301, LIR 302,
LIR 303, LIR 304, EDU 201.

Major Requirements   **21cr.**
LIR 305, LIR 306, LIR 413, LIR 414, LIR 415, ENL 314, ENL 411.

Plus 3 courses from the following pool: **9 cr.**
Language: ENL 413.
Literature: LIR 311, LIR 312, LIR 313, LIR 314, LIR 416, LIR 417, LIR 418.
Education : EDU 313, EDU 343, EDU 350, EDU 430

Free Electives   **7 cr.**
                                               Total: **103 cr.**

Bachelor of Arts in English Literature
Suggested Program (103 Credits)

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
ENL	223	Communication Arts	3 cr.
___	___	GER	9 cr.

Spring Semester I (15 Credits)

ENL	235	Technical English for Business (GER)	3 cr.
ENL	301	Intro. Study of Lang.	3 cr.
ENL	311	English Phonetics	3 cr.
LIR	211	Sur. of Engl. Lit.	3 cr.
___	___	GER	3 cr.

Summer Session I (9 Credits)

| HUT | 306 | Human Thought from 1500 to the present (GER) | 3 cr. |
| ___ | ___ | GER | 6 cr. |

Fall Semester II (15 Credits)

LIR	212	Sur. of Engl. Lit. II	3 cr.
LIR	213	Sur. of American Lit. II	3 cr.
LIR	301	Intro. to Fiction	3 cr.
LIR	302	Intro. to Poetry	3 cr.
LIR	303	Intro. to Drama	3 cr.

Spring Semester II (15 Credits)

ENL	312	Morphology	3 cr.
ENL	313	Syntax	3 cr.
ENL	314	English Vocabulary	3 cr.
EDU	201	Intro. to Education	3 cr.
LIR	304	Intro. to Shakespeare	3 cr.

Summer Session II (9 Credits)

| ___ | ___ | Pool Courses | 9 cr. |

Fall Semester III (15 Credits)

LIR	305	Novel Till End 19th C.	3 cr.
LIR	306	Drama Till Eng 18th C.	3 cr.
LIR	413	Restoration and 18th C. Lit.	3 cr.
ENL	411	History of the English Language	3 cr.
___	___	Pool Course	3 cr.

Spring Semester III (10 Credits)

LIR	414	19th Century Literature	3 cr.
LIR	415	20th Century Literature	3 cr.
___	___	Free Electives	4 cr.

The Degree of Bachelor of Arts in Translation and Interpretership

The purpose of the major Translation and Interpretership is to prepare expert translators and interpreters able to meet the present and future demands 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.
-developing intellectual and cultural formation.

Students may choose to emphasize either Translation or Interpretership.

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 Interpretership must successfully complete a total of 112 credits for the translation emphasis and 108 credits for the interpretership emphasis with a minimum grade-point average 2.0/4.0 and a minimum average 2.0/4.0 in the major requirements including the emphasis area. The 108 credits are divided into:

Degree Requirements
(108 credits)

General Education Requirements   **27 cr.**
ENL 222, ENL 235, REG 212 or REG 213, ARB 211 or ARB 231,
CSC 201, NTR 201, ENS 201
Plus two of the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201 or SOL 301.

Core Requirements   **58cr.**
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   **20 cr.**
TRA 403, TRA 431, TRA 432, TRA 433,
TRA 434, TRA 480.

Major Interpretership Requirements   **16 cr.**
INT 433, INT 434, INT 435,
INT 436, INT 480, FRC 223.

Electives   **7 cr.**
Translation students may select elective courses from the following areas:
Language: ENL 311, ENL 313, FRN 222
Education: EDU 201
Journalism: JOU 314
Psychology: PSL 201
Translation: TRA 332
Keyboarding: CSC 200 (Arabic Section)

Electives   **7 cr.**
Interpretership students may select elective courses from the following
areas:
Language: ENL 311, ENL 313, FRC 222
Education: EDU 201
Journalism: JOU 314
Psychology: PSL 201
Translation: TRA 332
Keyboarding: CSC 200 (Arabic Section)

Total: **108 cr.**

Bachelor of Arts in Translation and Interpretership -Translation
Suggested Program (112 Credits)

Fall Semester I (15 Credits)

ARB	___		3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.
ENL	223	Communication Art (GER)	3 cr.
___	___	GER	6 cr.

Spring Semester I (15 Credits)

___	___	GER	6 cr.
ENL	235	Technical English for Business	3 cr.
HUT	305	Human Thought to 1500 (GER) **or**	3 cr.
HUT	306	Human Thought from 1500 to the Present	
ENL	312	Morphology	3 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.
___	___	GER	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	3 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.

Fall Semester IV (16 Credits)

Emphasis	TR		16 cr.

Bachelor of Arts in Translation and Interpretership-Interpretership
Suggested Program (108 Credits)

Fall Semester I (15 Credits)

ARB	___		3 cr.
ENL	222	Sophomore Rhetoric	3 cr.
ENL	223	Communication Art (GER)	3 cr.
___	___	GER	6 cr.

Spring Semester I (15 Credits)

___	___	GER	6 cr.
ENL	235	Tech. Engl. Bus.	3 cr.
HUT	305	Human Thought to 1500 (GER) **or**	3 cr.
HUT	306	Human Thought from 1500 to the present	
ENL	312	Morphology	3 cr.

Summer Session I (6 Credits)

FRC	222	Sophomore French I or	3 cr.
FRC	223	Sophomore French II	3 cr.
------	-----	GER	

Fall Semester II (12 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.

Spring Semester II (15 Credits)

TRA	202	Trans. Theory and Methodology II	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 (11 Credits)

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.

Fall Semester IV (16 Credits)

Emphasis	(TR)	12 cr.

Master of Arts in Applied Linguistics and TEFL

The M.A. Degree in 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 (Ph.D) and make a significant contribution in 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 Master of Arts 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:

Course Requirements			**24 cr.**
These consist of the following:			
ENL	601	Bibliography and Method. of Research	3 cr.
ENL	602	Intro. to Applied Ling. and Language	3 cr.
ENL	612	Psycholinguistics	3 cr.
ENL	613	Sociolinguistics	3 cr.
ENL	623	Language Teaching Methodology	3 cr.
ENL	631	Measurement and Evaluation	3 cr.
ENL	699	Thesis	6 cr.

Electives			**12 cr.**
Students may select electives from the following:			
ENL	611	Analytical English Grammar	3 cr.
ENL	621	Arabic Linguistics and Sociolinguistics	3 cr.
ENL	622	Contrastive Analysis and Error Analysis	3 cr.
ENL	624	Discourse Analysis	3 cr.
ENL	632	Applied Ling. in Syllabus Design and Mater. Develop.	3 cr.
ENL	633	Data Processing in L2 Teaching	3 cr.
ENL	641	Field Methodology	3 cr.
EDU	681	Seminar in Teaching Reading	3 cr.
EDU	682	Seminar in Teaching Writing and Comp.	3 cr.
EDU	683	Seminar in Teaching Literature	3 cr.
EDU	684	Seminar in Teaching ESP Courses	3 cr.
LIR	631	English Fiction to 1800	3 cr.
LIR	641	American Literature, 1609-1800	3 cr.

The Degree of Master of Translation/Interpretership M.A.

The M.A. in Translation and Interpretership aims at further equipping the students with more competence and expertise in the areas of translation and interpretership. It also prepares graduate students for further academic studies at the doctoral level.
Needless to say, the program serves better the needs and the career goals of people already working in the field who may want to upgrade their knowledge in these areas.

Admission Requirements:
General University requirements for graduate work must be met. In addition, M.A. candidates will be asked to sit for a written test of French and Arabic **A** grade of 70 and above is required in both exams. 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/Interpretership, the student must complete 36 credits with an over-all average of 3.0/4.0. The required credits are distributed as follows:

Major Requirements   30cr.
Electives   6 cr.
Total Requirements   36cr.

Over and above, the student must fulfill a fourth language requirement to be assessed by the department.

Degree Requirements
(36 credits)

M.A. TRANSLATION

Major Requirements   **30 cr.**
Complete the following required courses:
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 or TRA 638, TRA 639, TRA 690

Electives   **6 cr.**
Choose 2 from the following:
ENL 611, LIR 601, LIR 662, IFD 603, IFD 620, IFD 605, INT 610,
or any two 600 level INT Courses.

M.A. INTERPRETERSHIP

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, LLIR 661, IAF 603, IAF 621, IAF 605,
or any two 600 level course beyond TRA 630

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 (15.0); 0 cr. Designed to improve the students' level of English and to prepare for University.

ENL 105 Freshman English I (5.0); 5 cr. Designed to introduce students to academic English. All forms of expository paragraph writing are practiced.

ENL 107 Freshman English II (5.0); 5 cr. Designed to strengthen student proficiency in academic English. Students will master research techniques. *Prerequisite:* 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 Freshman English II for Science (3.0); 3 cr. Reinforces the basic skills taught in ENL 109. Comprehension of science oriented texts is stressed. *Prerequisite:* ENL 109 or Placement.

ENL 221 Sophomore English for Science (3.0); 3 cr. Aims at developing the use of logic in academic writing. A formal report is required. *Prerequisite:* ENL 110 or Placement.

ENL 222 Sophomore Rhetoric (3.0); 3 cr. Aims at refining the student's use of critical analysis and argumentation. A properly documented paper is required. *Prerequisite:* ENL 107 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. *Prerequisite:* ENL 222.

ENL 232 Technical English for Communication (3.0); 3 cr. Provides students in the Mass Communication major with the practical skills required for professional communication. *Prerequisite:* ENL 222 or 221.

ENL 235 Technical English for Business (3.0) 3 cr. Provides students in the Business Administration and Translation/Interpretership with practical skills required for professional communication. Prerequisite: ENL 222 or 221.

ENL 236 Technical English for Art (3.0); 3 cr. Provides students in the Arts with practical skills required for professional communication. Prerequisite: ENL 222 or 221.

ENL 239 Technical English for Science (3.0); 3 cr. Provides students of Engineering and Applied Sciences with practical skills required for professional communication. *Prerequisite*: ENL 222 or 221.

ENL 301 Introduction to the Study of Language (3.0); 3 cr. An introduction to the study of language; its nature, structure, and development. Prerequisite: ENL 222.

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. *Prerequisite*: ENL 301.

ENL 313 Syntax (3.0); 3 cr. Analysis of phrase and sentence structure in English their immediate constituents and types. *Prerequisite*: ENL 312.

ENL 314 English Vocabulary (3.0); 3 cr. A detailed study of meaning relationships, with a study of borrowings from other languages. *Prerequisite:* ENL 212.

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. *Prerequisite:* ENL 313.

ENL 411 History of the English Language (3.0); 3 cr. A study of the major phonological, syntactic and lexical developments since Alfred the Great. *Corequisite:* ENL 314.

ENL 412 Phonology (3.0); 3 cr. Studies phonological theory development. Emphasizes generative phonology of English. *Corequisite:* ENL 411.

ENL 413 Advanced English Grammar (3.0); 3 cr. Study of English grammar as dealt with by the traditional grammarians. *Prerequisite:* ENL 312.

ENL 414 Sociolinguistics I (3.0); 3 cr. Treats language as a social phenomenon. Linguistic variations, social and contextual factors are studied. *Prerequisite:* 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. *Prerequisite:* 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. *Prerequisite:* ENL411.

Undergraduate Courses: French

FRC 105 Freshman French I (5.0); 5 cr. Consolidates the 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. Refines the students' ability to write in French. Critical analysis, and argumentation will be practiced.

FRC 223 Sophomore French II (3.0); 3 cr. Consolidates students' ability to express themselves in French. Students will present both extemporaneous and prepared speeches.

Undergraduate Courses: German

GEM 201 German I (3.0); 3 cr. Explanation of the different characteristics of the German language.

GEM 202 German II (3.0); 3 cr. Continuation of GEM 201. Emphasis on writing and reading.

Undergraduate Courses: Interpretation

INT 431 Interpreting: English-Arabic I (3.0); 3 cr. Aims to help students develop competence in simultaneous 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 simultaneous interpretation needed at international congresses. *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 congresses. *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 congresses. *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 congresses. *Prerequisite:* INT 433.

INT 480 Interpreter Internship; 1 cr. Practical training in a professional setting at conferences using simultaneous translation supervised by the instructor. *Prerequisite:* INT 433.

Undergraduate Courses: Italian

ITL 201 Italian I (3.0); 3 cr. Explanation of the different characteristics of the Italian language.

ITL 202 Italian II (3.0); 3 cr. Continuation of ITL 201. Emphasis on writing and reading

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Undergraduate Courses: Literature

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. *Prerequisite:* ENL 107.

LIR 212 Survey of English Literature II (3.0); 3 cr. Continuation of LIR 211 from Romantic period to mid-twentieth century. *Prerequisite:* LIR 211.

LIR 213 Survey of American Literature (3.0); 3 cr. Surveys poetry and prose from the Colonial Period to mid-19th century. *Prerequisite:* ENL 107.

LIR 301 Introduction to Fiction (3.0); 3 cr. Studies the formal elements of fiction. Selections will be from British and American writers. *Prerequisites:* LIR 212, LIR 213.

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. *Prerequisites:* LIR 212, LIR 213.

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. *Prerequisites:* LIR 212, LIR 213.

LIR 304 Introduction to Shakespeare (3.0); 3 cr. Studies the major works of Shakespeare. *Prerequisite:* LIR 303.

LIR 305 Novel to the End of the 19th. C (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. *Corequisite:* LIR 301.

LIR 306 Drama to the End of the 18th. C. (3.0); 3 cr. A study of the development of drama from its origins to 1800. Selections will include major representative works. *Corequisite:* LIR 303.

LIR 311 Twentieth Century Literature (3.0); 3 cr. Studies the major themes in contemporary American literature. *Corequisites:* LIR 302 and LIR 303.

LIR 312 Literary Criticism (3.0); 3 cr. A survey of literary disciplines and methods from Plato to the Modern Age. *Corequisites:* LIR 302 and LIR 303.

LIR 313 Orientalism in English Literature (3.0); 3cr. 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. *Corequisites:* LIR 301, LIR 302, LIR 303.

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. *Corequisite:* LIR 302.

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. *Corequisite:* LIR 302.

LIR 415 20th Century Novel and Drama (3.0); 3 Readings and analysis of representative works by principal novelists and playwrights. *Corequisites:* LIR 301, LIR 303.

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. *Corequisites:* LIR 302, LIR 307, LIR 308.

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. *Corequisites:* LIR 301, LIR 302, LIR 303.

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. *Corequisite:* LIR 312

Undergraduate Courses: Spanish

SPN 201 Spanish I (3.0); 3 cr. Explanation of the different characteristics of the Spanish language.

SPN 202 Spanish II (3.0); 3 cr. Continuation of SPN 201. Emphasis on writing and reading.

Undergraduate Courses: Translation

TRA 201 Translation Theory and Methodology (3.0); 3 cr. Provides students with a firm foundation of both translation and methodology. *Prerequisite:* ENL 107.

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 Contemparary Texts (3.0); 3 cr. Familiarizes students with different genres and contempoary literature English/Arabic. *Corequisites*: TRA 201, ENL 222

TRA 212 Translation of French Contemporary Texts (3.0); 3 cr. Familiarizes students with different genres and features of contemporary literature. French/Arabic. *Prerequisite:* TRA 201.

TRA 301 Translation of English Documents (3.2); 4 cr. Develops competence in translating official, legal and judicial English/Arabic texts. *Prerequisite:* 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 economics. *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 economy. *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; (4.0) 4 cr. Focuses on intensive practice in translating Arabic cultural texts (historical, religious, philosophical...) into English. *Prerequisite:* TRA 421.

TRA 432 Translation of Cultural Texts II; (4.0) 4 cr. Focuses on intensive practice in translating English cultural texts into Arabic. *Prerequisite:* TRA 421.

TRA 433 Translation of Cultural Texts III (4.0); 4 cr. Focuses on intensive practice in translating Arabic cultural texts into French. *Prerequisite:* TRA 422.

TRA 434 Translation of Culture Texts IV (4.0) 4 cr. This course focuses on intensive practice in translating French cultural texts into Arabic. *Prerequisite:* TRA 422.

TRA 480 Translation Internship (1.0); 1 cr. Practical training in a professional setting at a translation bureau supervised by the instructor. *Prerequisite:* TRA 422.

Graduate Courses: English

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 611 Analytical English Grammar (3.0); 3 cr. Analyses 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. *Prerequisites:* 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. *Prerequisite* 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: Education

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

Graduate Courses: Literature

LIR 601 Survey 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 603 Linguistics (3.0); 3 cr. A study of major trends and methodologies in linguistics.

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 1500-1600 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. *Prerequisite:* LIR 651.

LIR 661 Major Literary Figures (3.0); 3 cr. Study of the works of one major British or American author. *Prerequisites:* LIR 611, LIR 612.

LIR 662 World Literature (3.0); 3 cr. A study of major literary works by non-Anglo-Saxon authors.

LIR 683 Seminar in Selected Topics (3.0); 3 cr. An in-depth analysis of selected topics and themes as delineated in literature. *Prerequisite:* 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); 4cr. 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

Dean: *Dr. Khalid Fakih*
Secretary: *Mrs Wassil Chemali*

Associate Professor

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

Assistant Professors

Ajami, Joseph, Ph.D., 1987, Ohio University-Athens, USA
Mass Communication
Darouny, Kamal, M.A., 1986, Sussex College of Technology, England
Marketing and Advertising
Donerian, Vatche, M.A., 1987, Yerevan State Institute of Dramatic and Fine Arts, Armenia
Theater and TV Directing
Hammoud, Mahmoud, Ph.D., 1992, Ohio University-Athens, USA
Mass Commmunication

Today we communicate through newspapers, magazines, radio, television, public relations, advertising, photography, and other media.
The Department prepares for a career in mass communication. It offers specific sequences in print and electronic media, advertising, and theater, leading to the degrees of:

Bachelor of Arts in Advertising and Marketing
Bachelor of Arts in Communication Arts,
Bachelor of Arts in Communication Arts with concentrations in Journalism
Bachelor of Arts in Communication Arts with concentrations in Radio/TV
Master of Arts in Media Studies
        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 credits hours with a minimum cumulative GPA of 2.3/4.0 in their "major requirements" courses. These 105 credits are divided as follows:

Degree Requirements
(105 credits)

General Education Requirements	**27 cr.**

ENL 222, ENL 232, ARB 211 or 231, REG 212 or 213,
CSC 201, NTR 201, ENS 201
2 courses from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201 or SOL 301

Core Requirements	**24 cr.**

COA 201, COA 223, COA 252, COA 359,
COA 450, PHO 201, STA 201, ARB 212

Major Requirements	**44 cr.**

ADM 216, ADM 341, ADM 352, ADM 453, ADM 481, ADM 490,
VIA 201, VIA 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.**

COA 275, COA 311, COA 313, COA 352, COA 350, COA 360,
COA 368, COA 369, COA 499, JOU 210, JOU 325, JOU 340,
JOU 370, JOU 460, MRK 313, CSC 271, STA 206, MAT 201.

Free Electives		**4 cr.**
	Total:	**105 cr.**

Bachelor of Arts in Advertising and Marketing
Suggested Program (105 Credits)

Fall Semester I (15 Credits)

COA	201	Mass Media Essentials	3 cr.
___	___	GER	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.
MRK	201	Fundamentals of Marketing	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.
VIA	201	Basic Design	3 cr.
COA	252	Principles of Public Relations	3 cr.
ENL	232	Technical English for Mass Com. (GER)	3 cr.

Summer Session I (6 Credits)

PHO	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.
VIA	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	3cr.
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, and photojournalists in various print media. Students will also supplement 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. Moreover, students who intend to major in journalism must take an Arabic test whose results will determine the number of Arabic courses which the student may need to take prior to taking courses in his major area of study. Students must maintain a 2.3/4.0 GPA in their "major requirements" courses. They also must complete an "Internship" at one of the media outlets in the Lebanese market. A student needs 104 credits to graduate and they are divided as follows:

Degree Requirements
(104 credits)

General Education Requirements   **27 cr.**
ENL 222, ENL 232, ARB 211 or 231, REG 212 or 213,
CSC 201, NTR 201, ENS 201
2 courses from the following:
ECN 200, HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201 or SOL 301

Core Requirements   **24 cr.**
COA 201, COA 223, COA 252, COA 359, COA 450,
PHO 201, STA 201, ARB 212

Major Requirements   **40 cr.**
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, CSC 271.

Students must choose 9 credits from the following pool: 9 cr.
HIT 211 or IAF 212, COA 205, COA 240,
COA 270, COA 311, COA 312, COA 360, COA 368, COA 369,
COA 415, COA 499, ADM 216.

Free Electives   **4 cr.**
                                                           Total: 104 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	222	Sophomore Rhetoric	3 cr.
PHO	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	232	Technical English for Mass Com.	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	Newswrting 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)

CSC	271	Desktop Publishing	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 - Radio and Television

The Radio and Television program at NDU prepares students for vocational choices in electronic media production, programming and "on-air" broadcasting. In addition to a variety of courses in social sciences, English and other "General Education Requirements" courses, the program stresses the skills that will help prepare Radio and Television students in their careers. Introductory and advanced instructions in audio and video techniques are supported by hands-on experiences in our well-equipped studio.

Graduation Requirements

The radio-television sequence requires 106 credit hours to complete. The skills courses, such as studio workshop, lighting, editing, production techniques, scriptwriting, drama, progressively build upon one another. Students must maintain a 2.3/4.0 GPA in their major requirement courses. The program culminates in a senior project that incorporates the skills acquired during the years spent at NDU. The 106 credits are divided as follows:

Degree Requirements
(106 credits)

General Education Requirements   **27 cr.**
ENL 222, ENL 232, ARB 211 or 231, REG 212 or 213,
CSC 201, NTR 201, ENS 201
2 courses from the following:
HIT 211, HUT 305 or 306, PHL 311, POS 201,
PSL 201, SOL 201 or SOL 301

Core Requirements   **24 cr.**
COA 201, COA 223, COA 252, COA 359,
COA 450, PHO 201, STA 201, ARB 212

Major Requirements   **45 cr.**
COA 203, COA 225, COA 240, COA 270, COA 271, COA 275,
COA 311, COA 312, COA 313, COA 325, COA 330, COA 401,
COA 411, COA 415, COA 430, COA 475, COA 480, COA 490.

Students must choose 6 credits from the following pool: **6 cr.**
ADM 216, COA 350, COA 352, COA 360, COA 365, COA 368,
COA 369, COA 499, JOU 210, JOU 310, JOU 325, JOU 340,
JOU 460, IAF 312, TRA 201, THA 320

Free Electives   **4 cr.**

     Total: **106 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	223	Speech Communication	3 cr.
ENL	222	Sophomore Rhetoric	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Spring Semester I (16 Credits)

COA	252	Principles of Public Relations	3 cr.
COA	225	Lighting	3 cr.
COA	270	Studio Workshop I	1 cr.
COA	240	The Broadcasting Industry	3 cr.
ENL	232	Technical English for Mass Com. (GER)	3 cr.
___	___	GER	3 cr.

Summer Session I (8 Credits)

PHO	201	Basic Photography	3 cr.
COA	275	Editing Skills	2 cr.
___	___	GER	3 cr.

Fall Semester II (15 Credits)

COA	311	Radio Programming	3 cr.
COA	312	TV Production Techniques	3 cr.
COA	325	Directing and Acting Skills	3 cr.
COA	359	Mass Communications and Society	3 cr.
___	___	GER	3 cr.

Spring Semester II (14 Credits)

COA	313	Art of the Film	3 cr.
COA	330	TV Documentary	3 cr.
COA	203	Make-up & Colors	1 cr.
COA	271	Studio Workshop II	1 cr.
COA	415	Broadcast News Operations	3 cr.
___	___	Pool Course	3 cr.

Summer Session II (9 Credits)

ARB	212	Advanced Arabic Grammar	3 cr.
___	___	GER	3 cr.
STA	201	Statistics for Social Sciences	3 cr.

Fall Semester III (15 Credits)

COA	411	Scriptwriting	3 cr.
COA	430	TV Drama	3 cr.
COA	401	Advanced Radio	3 cr.
COA	450	Mass Communications Research	3 cr.
___	___	Pool Course	3 cr.

Spring Semester III (14 Credits)

COA	490	Senior Study	3 cr.
COA	475	Computer Graphics and Video Animation	3 cr.
___	___	GER	3 cr.
COA	480	Communication Internship	1 cr.
___	___	Free Elective	4 cr.

The Master Degree of Arts In Media Studies

NDU intends to create an inter-disciplinary program that combines more than one area of study in the field of Communication. A program that incorporates the areas of Journalism, Advertising and Public Relations, Communication theories and Electronic Media into a cohesive program of study that should distinguish its student both at the university level and in the "media market."

Graduation Requirements:

Students seeking the degree of Master in Arts must complete 33 credits and a successful defense of a 4 credit thesis. This will bring the total to 37 credit hours.

Admission to the graduate program requires no less than 2.7/4.0 GPA. They must maintain a 3.0/4.0 GPA throughout their years of study.

Students who have a degree in non-Communication Major should take 9 credits remedial courses and score a minimum grade of B. The Graduate Curricula consist of:

Degree Requirements
(37 credits)

Communication Courses   **18 cr.**
COA 601, COA 605, COA 610, COA 621, COA 630 and COA 650

Core Requirements
ADM 614, ADM 618, ADM 620, ADM 625, ADM 690, COA 602, COA 611,
COA 612, COA 613, COA 635, COA 680, COA 695, JOU 603, JOU 615,
JOU 660 and JOU 670.

Total: 37 cr.

Undergraduate Course: 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. *Prerequisite:* ENL 107.

ADM 341 Media Planning (3.0) 3 cr. Role of media in achieving marketing and advertising objectives. Examines channels of communication. *Prerequisites:* MAT 201 or STA 201 and ADM 216.

ADM 352 Creativity and Copywriting (3.0); 3 cr. Theory and application of the creative side of advertising. *Prerequisites:* ADM 216 and VIA 201. *Corequisite*: VIA 214.

ADM 453 Global Advertising (3.0); 3 cr. History, development and current status of international advertising. *Prerequisites:* ADM 341 and ADM 352.

ADM 481 Internship in Advertising; (1.0); 1 cr. Supervised work in the "real" world of advertising and/or marketing. *Prerequisite:* 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. *Prerequisites:* COA 450 and ADM 453.

Undergraduate course: Communication

COA 201 Mass Media Essentials (3.0); 3 cr. Overview of various types of mass media. *Prerequisite*: ENL 107.

COA 203 Make-up and Color (1.0) 1 cr. The use of make-up and colors in TV productions.

COA 223 Speech Communication (3.0); 3 cr. Trains students in researching, organizing and delivering various types of speeches. *Prerequisites:* ENL 107 & COA 201.

COA 240 The Broadcast Industry (3.0); 3 cr. History and development of the industry and its impact on society. *Prerequisite:* COA 201.

COA 205 Archive Organization (1.0); 1 cr. Teaches students the effective use of archive resources in a library setting.

COA 225 Lighting (3.0); 3 cr. Lighting and its creative employment in studio work and television productions. *Prerequisite:* COA 201.

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 223.

COA 270 Studio Workshop I (0.2); 1 cr. Functions and operations of radio and TV equipment. Essential for subsequent R/TV courses. *Prerequisite:* COA 201.

COA 271 Studio Workshop II (0.2); 1 cr. Continuation of COA 270. *Prerequisite:* COA 270.

COA 275 Editing Skills (2.0); 2 cr. Provides students with the basic skills needed for completing their film projects. Proper use of editing equipment. *Prerequisite:* COA 270.

COA 311 Radio Programming (3.0); 3 cr. Practical experience in producing, editing and other aspects of radio programing. P*rerequisite:* COA 270.

COA 312 TV Production Techniques (3.0); 3 cr. Practical studio management and creative use of technical facilities in videotaping and production. *Prerequisite:* COA 270.

COA 313 Art of the Film (3.0) 3 cr. Critical examination of the art of the motion picture. Screening of different film genres and studying of cinematography techniques.

COA 325 Directing and Acting Skill (3.0); 3 cr. Teaches acting with focus on character analysis, studies of scripts and directing talent in front of or on camera. *Prerequisite:* COA 312.

COA 330 TV Documentary (3.0); 3 cr. Documentary language formats and visual styles. Production of documentaries of various lengths. *Prerequisites:* COA 312 and COA 325.

COA 350 Current Issues (3.0) 3 cr. Major political, cultural, economic, and social issues and how they are reported in the media. *Prerequisite:* COA 201.

COA 352 Media Law (3.0) 3 cr. Study of the laws and regulations that govern both print and broadcast media in Lebanon. In Arabic. *Prerequisite:* COA 201.

COA 359 Mass Media and Society (3.0); 3 cr. Interactive relationship between media and society. *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 interest, 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. *Prerequisite:* COA 312.

COA 368 International Communication (3.0); 3 cr. Mass media systems of the world. Flow of information, and role of media in the development of the Third World. *Prerequisite:* COA 201.

COA 369 Selected Topics in Mass Communication (3.0); 3 cr. Special topics not covered in the curriculum: *Prerequisite:* COA 359.

COA 401 Advanced Radio Programming (3.0); 3 cr. Continuation of COA 311. *Prerequisite:* COA 311.

COA 411 Scriptwriting (3.0); 3 cr. Converting ideas to final script form; several scripts of various lengths are required. *Prerequisite:* COA 325.

COA 415 Broadcast News operations (3.0); 3 cr. Gathering, writing, editing, selecting and presenting the news in a newsroom setting. *Prerequisites:* COA 311 and COA 312.

COA 430 TV Drama (3.0); 3 cr. Involves the conception of shooting, directing and editing of TV dramatic production. Technical means to execute scripts. *Prerequisites:* COA 325 and COA 411.

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. *Prerequisite:* STA 201.

COA 475 Computer Graphics and Video Animation (3.0); 3 cr. Applying computer graphics in developing video animation projects. *Prerequisites:* CSC 201 and COA 312.

COA 480 Communication Internship; 1 cr. Practical training in a professional broadcast setting.

COA 490 Senior Study (3.0); 3 cr. A final project in the broadcast media. Also includes an "exit" exam in which students demonstrate knowledge of their field. *Prerequisite*: COA 450.

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.

Undergraduate Courses: Journalism

JOU 210 Mass Media Language (3.0); 3 cr. Principles of effective writing with emphasis on grammar, structure, and style. *Prerequisite:* 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:* PHO 201 and JOU 210

JOU 340 Public Relations Techniques (3.0); 3 cr. The use of different communication tools in reaching specific publics: *Prerequisite:* COA 252.

JOU 370 Newspaper Production (2.0); 2 cr. Students must produce a campus newspaper. *Prerequisites:* CSC 207 and 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*: JOU 340.

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: Advertising

ADM 614 Case studies in Advertising (3.0); 3 cr. Real life examples of " good " and " bad " advertising; legal, cultural, and ethnical problems in advertising.

ADM 618 Integrated Marketing Communication Campaigns (3.0); 3 cr. An in-depth examination of this interdisciplinary approach to reaching goals and audiences.

ADM 620 Advertising campaigns (3.0); 3 cr. This course involves the conceptualization of an advertising campaign for a client.

ADM 625 Advertising and Society (3.0); 3 cr. Role of advertising in cultural, and economics and communication contexts.

ADM 690 Seminar in Advertising and Mass Communication (3.0); 3 cr. A round-table discussion and evaluation of advertising, its place in the communication process, and the interplay of effects between advertising and mass media.

Graduate Courses: Communication

COA 601 The communication Industry (3.0); 3 cr. History, developments and current trends.

COA 602 Advanced video production (3.0); 3 cr. State-of-the-art techniques in video making and TV programming.

COA 605 Media Technology (3.0); 3 cr. Overview of the emerging technology in electronic media and its societal impact.

COA 610 Persuasive communication (3.0); 3 cr. Study of the basic concepts in thought

development such as information processing, belief and attitude formation and change.

COA 611 Media and Politics (3.0); 3 cr. The impact of the mass media on the political process especially in democratic societies. The role of the media consultant is also examined.

COA 612 Advanced public speaking (3.0); 3 cr. Practice in presenting informative and persuasive speeches with emphasis or rhetorical processes. Includes a review of the principles of public speaking. For non-communication major.

COA 613 World Broadcasting (3.0); 3 cr. A comparative study of electronic media systems. A cross-cultural examination of rules, regulations, and flow of programming among nations.

COA 621 Ethics in communication (3.0); 3 cr. Problems and dilemmas in the practice of journalism, advertising and public relations. Case studies and possible solutions are offered.

COA 630 Mass communication Theories (3.0); 3 cr. Review and evaluation of the different theories used to explain the roles, uses and effects of mass media.

COA 635 Advanced Electronic Newsgathering and Reporting (3.0); 3 cr. This course offers experience in gathering, writing, editing, and presenting news for the electronic media.

COA 650 Research Methods for Mass Media (3.0); 3 cr. Social Science research methods and their application in mass communication contest. Research design, data collection and analysis.

COA 680 Special Topics in Mass Communication (3.0); 3 cr. A special course that takes into consideration the expertise of the teacher in a particular area and the interest of the students in this area (e.g. Gender and Media; Mass Media and Culture etc.)

COA 695 Thesis (4.0); 4 cr.: A supervised work, which involves the conceptualization and the execution of a major study in the student's selected area of interest.

(This may be replaced with a major TV or video production for those who select Radio and Television as their area of emphasis).

Graduate Course: Journalism

JOUR 603 The Art of Interviewing (3.0); 3 cr. Techniques and tools gathering information from News sources.

JOUR 615 Advanced writing and reporting (3.0); 3 cr. News and news value; Investigative reporting; Interpretive Reporting. Legal and ethical problem of Reporting.

JOUR 660 Advanced public relations (3.0); 3 cr. Analyzing the publics and the media for PR purposes. Planning, executing, and evaluating a PR program.

JOUR 670 Publication management (3.0); 3 cr. Operation and administration of a daily newspaper, radio station, and TV station.

P.S. The course description is being reviewed by the Mass Communication Department's Curriculum Committee.

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES

Dean: *Dr. Doumit Salameh*
Secretary: *Miss Nancy Khoury*

Visiting Emeritus
Akl, Said (Poet, and cultural thinker)

Professor
[1]*Rihani, Ameen A.,* *a.b.d*., 1981, *Modern Literature,* American University of Beirut, Ph.D., 1996, *Bilingual Literature,* Lebanese University, Lebanon

Associate Professor
Salameh, Doumit, Ph. D., 1988, St. Louis University, USA
Philosophy

Assistant Professors
Alam, Edward, Ph.D., 1996, University of Utah, USA
Philosophy
Eid, Mansour, Doctorate, 1985, Université Saint-Joseph, Lebanon
Arabic Language and Literature
Matar, Suhail, C.A.P.E.S.,1969, Université Libanaise, Lebanon
Arabic Language and Literature
Tabar, Paul, Ph.D. 1991, Macquarie University, Australia.
Sociology
Yaacoub, Youssef, Ph.D., 1990, Loyola University of Chicago, USA
Sociology

Lecturer
Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology,* Université Libanaise, Lebanon

The Division of Social and Behavioral Sciences offers a cluster of courses which are necessary for a comprehensive university education at the undergraduate level. These courses cover - in an introductory or relatively advanced form - disciplines in social and behavioral sciences, the purpose of which is to develop student maturity.

The Bachelor of Arts in Arabic Language and Literature

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

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[1] On tenure appointment

criticism are also highlighted. Graduates with a BA in Arabic Language and Literature are qualified to either teach in schools or pursue graduate studies.

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   **21 cr.**
ARB 211 or 231, CSC 201, ENL 222, ENL 235, HIT 211, ENS 201 or NTR 201, REG 212 or REG 213

Core Requirements   **39 cr.**
ARB 201, ARB 213, ARB 214, ARB 215, ARB 216, ARB 301, ARB 312, ARB 313, ARB 314, ARB 321, ARB 323, ARB 311, ARB 331, ARB 333

Major Requirements   **40 cr.**
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.

Free Elective   **3 cr.**
ENL 301, ARB 221, ARB 224

                                                          Total: 103 cr.

The 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
In order to be admitted to the Master program, candidates must fulfill the following:
1. hold a Bachelor degree in Arabic Language and Literature
2. comply with NDU rules and regulations for graduate work
3. sit for the Arabic Entrance Test offered by NDU.

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

Total:	**30 cr.**

BA Arabic Language and Literature
Suggested program (103 credits)

Fall Semester I (14 Credits)

ENL	222	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	235	Technical English	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 Bachelor of Arts in Psychology

Statement of Purpose: In the contemporary world psychology is playing an ever greater role. The program proposed here provides students with three essential fields of concentration:

Clinical Psychology
Educational Psychology
Industrial Psychology

A. The program at NDU is specifically developed to promote the ability to deliver service skills within the community. At the BA level, the student will not be qualified to function independently as a private psychologist; however, he/she will be able to cope with work in any community setting.

B. The program will train a student to be aware of problems that exist and the possible approaches to resolve them. Using psychological assessment, strategies, 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 211, ENL 223

Graduation Requirements:

To graduate, students 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 core and major requirements. Electives may be chosen from other concentration courses within the department of Psychology or from the different Faculties and majors within the university. The 106 credits are divided into:

Degree Requirements
(106 credits)

General Education Requirements   **31 cr.**
ARB 211 or 212, CSC 200, CSC 201, ENL 211, ENL 223, HUT 305 or 306,
PSL 201, REG 212 or 213, PHL 311, SOL 201, STA 201, MAT 202,

Major Requirements   **48 cr.**
PSL 211, PSL 213, PSL 215, PSL 217, PSL 313, PSL 315, PSL 317, PSL 319,
PSL 321, PSL 323, PSL 411, PSL 413, PSL 415, PSL 417, PSL 481, PSL 491

Concentration – Clinical   **21 cr.**
PSL 310, PSL 320, PSL 312, PSL 330, PSL 382, PSL 424, PSL 484

Free Elective   **3 cr.**
ENL 301, ARB 221, ARB 224

                                          Total: **106 cr.**

Concentration – Industrial

General Education Requirements   **31 cr.**
ARB 211 or 212, CSC 200, CSC 201, ENL 211, ENL 223, HUT 305 or 306,
PSL 201, REG 212 or 213,PHL 311, SOL 201, STA 201, MAT 202,

Major Requirements   **48 cr.**
PSL 211, PSL 213, PSL 215, PSL 217, PSL 313, PSL 315, PSL 317, PSL 319,
PSL 321, PSL 323, PSL 411, PSL 413, PSL 415, PSL 417, PSL 481, PSL 491

Concentration – Industrial   **27 cr.**
PSL 322, PSL 332, PSL 386, PSL 420, PSL 424, PSL 422, BAD 315, BAD
419, BAD 413

                                                        Total: **106 cr.**

Concentration – Educational

General Education Requirements   **31 cr.**
ARB 211 or 212, CSC 200, CSC 201, ENL 211, ENL 223, HUT 305 or 306,
PSL 201, REG 212 or 213,PHL 311, SOL 201, STA 201, MAT 202,

Major Requirements   **48 cr.**
PSL 211, PSL 213, PSL 215, PSL 217, PSL 313, PSL 315, PSL 317, PSL 319,
PSL 321, PSL 323, PSL 411, PSL 413, PSL 415, PSL 417, PSL 481, PSL 491

Concentration – Educational   **27 cr.**
PSL 324, EDU 201; EDU 212; EDU 323, 321 or 322; EDU 331; EDU 345, 340,
341, 342, 343 or 344; EDU 355; EDU 420, 421, 422, 423 or 424; EDU ?

                                                        Total: **106 cr.**

A student is expected to graduate with 106 credit hours divided over a minimum of three
years of instruction. Minimum overall GPA is 2.0/4.0. Minimum average GPA is 2.5/4.0,
in general psychology and concentration requirements.

Bachelor of Arts in Psychology, Industrial Psychology Concentration
Sugested Program (106 credits)

Fall I (16 cr.)

ENL	211	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Fundamentals of Mathematics (GER)	3 cr.
STA	201	Stat. for Social Sciences Using SPSS	3 cr.
SOL	201	Introduction to Sociology (GER)	3 cr.
PSL	201	Introduction to Psychology (GER)	3 cr.

Spring I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
CSC	201	Computers and their Use (GER)	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	213	Psychology of Learning	3 cr.
PSL	215	Social Psychology	3 cr.

Summer I (9 cr.)

___	___	General Education Requirement	3 cr.
___	___	General Education Requirement	3 cr.
PSL	217	Psychology of Personality	3 cr.

Fall II (15 cr.)

PSL	313	Psychology of Adolescence	3 cr.
PSL	315	Sensation and Perception	3 cr.
PSL	317	Cognitive Psychology	3 cr.
PSL	319	Abnormal Psychology	3 cr.
PSL	322	Industrial Psychology	3 cr.

Spring 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	315	Organizational Behavior	3 cr.
BAD	419	Quantitative Techniques for Management	3 cr.

Summer II (6 cr.)

PSL	386	Practicum I: Industrial	3 cr.
___	___	General Education Requirement	3 cr.

FALL III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	413	History and Systems of Psychology	3 cr.
PSL	415	Intelligence Testing	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.
PSL	420	Humanistic Psychology	3 cr.

Spring III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
PSL	424	Community Psychology	3 cr.
PSL	422	Behavioral and Behavior Modification	3 cr.
BAD	413	Human Resource Management	3 cr.

Bachelor of Arts in Psychology - Clinical Psychology Concentration
Suggested Program (106 credits)

Fall I (16 cr.)

ENL	211	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Fundamentals of Math. (GER)	3 cr.
STA	201	Stat. for Soc. Scs. Using SPSS (GER)	3 cr.
SOL	201	Intro. to Sociology (GER)	3 cr.
PSL	201	Intro. to Psychology (GER)	3 cr.

Spring I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
CSC	201	Computers and their Use (GER)	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	213	Psychology of Learning	3 cr.
PSL	215	Social Psychology	3 cr.

Summer I (9 cr.)

___	___	General Education Requirement	3 cr.
___	___	General Education Requirement	3 cr.
PSL	217	Psychology of Personality	3 cr.

Fall II (15 cr.)

PSL	313	Psychology of Adolescence	3 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.

Spring II (15 cr.)

PSL	321	Experimental Psychology	3 cr.
PSL	323	Deviance	3 cr.
PSL	320	Psychopathology	3 cr.

Summer II (6 cr.)

PSL	382	Practicum I: Clinical	3 cr.
___	___	General Education Requirement	3 cr.

Fall III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	413	History and Systems of Psychology	3 cr.
PSL	415	Intelligence Testing	3 cr.
PSL	484	Practicum II: Clinical	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.

Spring III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
PSL	424	Community Psychology	3 cr.
___	___	Elective	6 cr.

Bachelor of Arts in Psychology - Educational Psychology Concentration
Suggested Program (106 credits)

Fall I (16 cr.)

ENL	211	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Fundamentals of Math. (GER)	3 cr.
STA	201	Stat. for Soc. Scs. Using SPSS	3 cr.
SOL	201	Intro. to Sociology (GER)	3 cr.
PSL	201	Intro. to Psychology (GER)	3 cr.

Spring I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
CSC	201	Computers and their Use (GER)	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	213	Psychology of Learning	3 cr.
PSL	215	Social Psychology	3 cr.

Summer I (9 cr.)

___	___	General Education Requirement	3 cr.
___	___	General Education Requirement	3 cr.
PSL	217	Psychology of Personality	3 cr.

Fall II (15 cr.)

PSL	313	Psychology of Adolescence	3 cr.
PSL	315	Sensation and Perception	3 cr.
PSL	317	Cognitive Psychology	3 cr.
PSL	319	Abnormal Psychology	3 cr.
EDU	201	Introduction to Education	3 cr.

Spring II (15 cr.)

PSL	321	Experimental Psychology	3 cr.
PSL	323	Deviance	3 cr.
PSL	324	Educational Psychology	3 cr.
EDU	34_	Methodology (EDU 341/2/3/4 or 5)	3 cr.
EDU	32_	Curriculum Development 321/2 or 3	3 cr.

Summer II (6 cr.)

EDU	42_	Test, Measurement and Evaluation EDU (420/1/2/ or 4)	3 cr.
___	___	General Education Requirement	3 cr.

Fall III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	413	History and Systems of Psychology	3 cr.
PSL	415	Intelligence Testing	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.
EDU	331	Classroom Management	3 cr.

Spring III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
EDU	212	Sociological Perspectives on schools	3 cr.
EDU	355	Education and the Lebanese Law	3 cr.
EDU	___	Education Elective	3 cr.

Undergraduate Courses: Arabic Courses

ARB 101 Arabic Essay Reading and Writing I (3.0); 3 cr. Concetrates on the essay, its development and its various types.

ARB 102 Arabic Essay Reading and Writing II (3.0); 3 cr. Continuation of ARB 101. *Prerequisite:* ARB 101.

ARB 111 Standard Arabic (3.0); 3 cr. Designed to help non-Arabic speaking students study Standard Arabic.

ARB 201 Introduction to Arabic Syntax (3.0); 3 cr. 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. Study of literary texts from different ages, with emphasis on the cultural components of the Arabic text and its artistic and aesthetical elements.

ARB 211 Appreciation of Arabic Literature (3.0); 3 cr. Deals with essential characteristics of literature as well as literature themes, school, and genres. *Prerequisite:* Sophomore Standing.

ARB 212 Advanced Arabic Grammer (3.0); 3 cr. Designed to improve the students' command of Arabic grammatical structures and its application in discourse. *Prerequisite:* Sophomore Standing.

ARB 213 Literary Genres (2.0); 2 cr. A study of the aesthetical characteristics of poetry, epic, theater, essay, elocution, narration.

ARB 214 Arabic Rhetoric and Prosody (3.0); 3 cr. The rise of Arabic rhetoric and its development: Rhetoric, semantics, metaphor, prosody and rhyme, stylistics and writing craft in all its forms are highlighted. *Prerequisite*: ARB 201

ARB 215 Literary Schools (2.0); 2 cr Studies the classic, romantic, realist, symbolic, existentialist, naturalist, surrealist schools through selected texts. *Prerequisite*: ARB 211

ARB 216 Research Methods (3.0); 3 cr. A study of the 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, and 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 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. An in-depth study of Arabic morphology and syntax, in conjunction with dictionary building.

ARB 312 Arabic Philology (3.0); 3 cr. A study of language philology: the development of Arabic philology, and its characteristics. Phonetics, etymology, derivations, post classical arabization and borrowed words, dialectology, colloquial vs classical modern Arabic, Arabic writing and calligraphy are highlighted.

ARB 313 Linguistics (3.0); 3 cr. Concepts of syntax, phraseology, styles, morphology, phonetics and phonology are studied.

ARB 314 Linguistic Phenomenon in Lebanon (3.0); 3 cr. The contribution of the Lebanese modern 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. 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 Islamic and Pre-Islamic Literature (3.0); 3 cr. Studies the Pre-Islamic period of Arabic literature and its characteristics through selected texts as well as the transformation in Arabic literature under the influence of Islam during the period of Rachidian successors and the Oummiads.

ARB 332 The Holy Koran and Literature (2.0); 2 cr. Studies the Koranic language and its effect on Arabic literature.

ARB 333 Poetry in the Abbasid Era (3.0); 3 cr. Studies the evolution of poetry in the Abbasid era through selected texts. The renovation trend and its reflection on literature, 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. Development of prose in the Abbasid Era through selected texts.

ARB 335 Andalusian Literature (3.0); 3 cr. Studies the evolution of Andalusian Arabic literature, tradition, renovation 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. Effects of Western thought on the Eastern Renaissance and its reflection on Arabic Literature. Also, the conflict between tradition and renovation is studied through selected texts.

ARB 415 The Arabic Modernization Movement (3.0); 3 cr. Studies the renovation in Arabic Poetry, in literature and criticism through selected texts.

ARB 416 Pioneers of Arabic Literature (3.0); 3 cr. Studies 20th century Arab literature.

ARB 421 English Lebanese Literature (3.0); 3 cr. The study of selected Lebanese writings in English.

ARB 422 French Lebanese Literature (3.0); 3 cr. The study of selected Lebanese writings in French.

ARB 423 The Evolution of the Critical Movement in Lebanon (3.0); 3 cr. Studies the Lebanese contribution to Arabic criticism, trends of criticism in Lebanon and their 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. Studies the works of prominent Lebanese writers.

ARB 425 Colloquial Literature (3.0); 3 cr.A study of the form and content of the spoken language through selections in fiction and poetry.

Undergraduate Courses: Human Thoughts

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. *Prerequisite:* ENL 107.

HUT 306 Human Thought from 1500 to the Present (3.0); 3 cr. Presents analyses of the issues/challenges which faced and are facing man from the Reformation to the present *Prerequisite:* ENL 107.

HUT 411 Aesthetics (3.0); 3 cr. Acquaints students with the art of detecting, producing and appreciating beauty in works of art. *Prerequisite:* ENL 222.

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.

PHL 211 Logic and the Scientific Method (3.0); 3 cr. Covers the methods of enquiry practiced by the natural, social, and behavioral sciences. *Prerequisite:* ENL 107.

PHL 311 Ethics and the Modern World (3.0); 3 cr. Offers a general analysis of fundamental problems in ethics. Texts directly related to the major religions are treated. *Prerequisite:* ENL 222.

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, habits.

PSL 201 Introduction to Psychology (3.0); 3 cr. Deals with a critical survey of general topics, principles, and findings of modern psychology. *Prerequisite:* ENL 107.

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 on the child between 3 and 5 years old. *Prerequisite:* ENL 107.

PSL 213 Psychology of Learning (3.0); 3 cr. introduces various principles and theories of earning, memory and forgetting. *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, including psychoanalytic, behavioral, trait, humanistic, cognitive and social roles are explored and evaluated. *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 will be on diverse family patterns due to social class, race, ethnic 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 311 Family Relations (3.0); 3 cr. Deals with basic structure and functions of the family and its interactions. *Prerequisite:* PSL 201 or 211.

PSL 312 Health Psychology (3.0); 3 cr. develops an understanding of how social and psychological theories and principles, knowledge and skills can be applied to health related issues. Topics include concept of illness, wellness, health, stress, behavioral medicine; use of psychological principles related to the cause, recovery and prevention of health related problems; pain; abuse; exercise; attitude change; social compliance. *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 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. deals with the theoretical and experimental foundations for current understanding of how humans acquire and use knowledge. Piaget, Bruner, Uygotsky theories of cognitive growth are studied. Topics such as development of language, reasoning, problem solving, creativity, intelligence are discussed. *Prerequisite*: PSL 201.

PSL 319 Abnormal Psychology (3.0); 3 cr. introduces abnormal behavior and disorders. Emphasis is given to theories, etiology, classifications and treatment of abnormalities. *Prerequisite*: PSL 201**.**

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 315; PSL 213 or 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, leadership qualities. *Prerequisites*: PSL 201, SOL 201, PSL 215.

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, 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; testing and evaluation. *Prerequisite*: PSL 201.

PSL 330 Introduction to Counseling and Psychotherapy (3.0); 3 cr. deals with various methods of counseling and psychotherapy. Focus is given to psychoanalysis, behavioral therapy and client centered therapy. *Prerequisite*: PSL 319.

PSL 332 Personnel and Human Factors in the Work Community (3.0); 3 cr. deals with 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 is looked at to show effects on productivity and work quality within the community. *Prerequisite*: PSL 322.

PSL 382 Practicum I: Clinical (1.3); 3 cr. provides a student with supervised work experience within his 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 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 a student an understanding of the meaning of stress; its definition, explanation, to introduce factors that may influence the individual or 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. looks at the major schools of thought; introducing the psychologists and approaches within the field to give a student an understanding of how psychology as a science today was reached. *Prerequisite*: PSL 213; PSL 315; PSL 317.

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 the WAIS for adults; WAIS for children and the Stanford Binet. *Prerequisites*: STA 201; PSL 211; PSL 313; 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 used in assessing personality. Emphasis is on research and methodological steps in evaluating a person's personality. *Prerequisites*: STA 201; PSL 217.

PSL 420 Humanistic Psychology (3.0); 3 cr. deals with a holistic approach to the study of human personality. Major contributors and their theories are looked at to emphasize the importance of subjective personal growth within a person's life. *Prerequisites*: PSL 201; PSL 217.

PSL 422 Behavioral Theory and Behavior Modification (3.0); 3 cr. focuses on principles of learning using the behavioral approach to the study of psychology to allow for behavioral intervention and therapy procedures to result in effective applications within the community. *Prerequisites*: PSL 201; PSL 319.

PSL 424 Community Psychology (3.0); 3 cr. concentrates on the interaction between an individual and his environment. Emphasis on various models of intervention is given as they relate to both the individual and community needs. Topics include poverty, prejudice, diversity, change, personal space, crowding, territoriality, social stress. *Prerequisites*: PSL 201, SOL 201; PSL 215.

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 within the topic choices. *Prerequisites*: PSL 321; PSL 213; Senior standing.

PSL 484 Practicum II: Clinical (1.3); 3 cr. provides a student with supervised work experience within his 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. is designed to be given to a student 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 revealed religions, i.e. Judaism, Christianity and Islam. *Prerequisite:* ENL 107.

REG 213 Catholicism (3.0); 3 cr. Treats the Catholic doctrine regarding both faith and morals. *Prerequisite:* ENL 107.

REG 412 History of Religious Thought in the M.E. (3.0); 3 cr. Studies the major theological interpretations of the three monotheistic religions as presented by their 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. *Prerequisite:* ENL 107.

SOL 301 Introduction to Anthropology (3.0); 3 cr. Introduces fundamental concepts of anthropology. It deals with the nature of man, culture and society. *Prerequisite:* ENL 107.

SOL 312 Social Problems (3.0); 3 cr. Covers social problems in contemporary society with special reference to the 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. Studies the materials, tools and methods of research.

ARB 611 Analytical Study of Abbasid Prose (3.0); 3 cr. Studies Arabic prose in its first stages, form the Islamic Age to the end of the Abbacy Age, focusing on the stages of transformation and modernization.

ARB 612 Analytical Study of Modern Prose (3.0); 3 cr. Studies and analyzes prose starting from the end of World War I, focusing on the stages of transformation and modernization.

ARB 613 Parallelism in Ancient Arabic Poetry (3.0); 3 cr. 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. Studies 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 one of the 20th Century poets, authors, 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. Comparative study of Arabic grammar as seen by the Koufi and Basra schools.

ARB 624 Methods of Teaching Arabic (3.0); 3 cr. Studies 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 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. Studies the works 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. Studies and analyzes pieces of poetry starting form 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.

Picture Paper

FACULTY OF NATURAL AND APPLIED SCIENCES (FN&AS)

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

DEPARTMENT OF COMPUTER SCIENCE
Dr. Fouad Chedid, *Chairperson*

DEPARTMENT OF MATHEMATICS AND STATISTICS
Dr. Jean Fares, *Chairperson*
Actuarial Science and Insurance Program
Mrs. Claudia Freiji Bou Nassif, *Academic Advisor*

DEPARTMENT OF SCIENCES
Dr. Layla Khalaf Keyrouz, *Chairperson*
Freshman Science Program
Dr. Roger Hajjar, *Academic Advisor*

FACULTY DIRECTORY

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FN&AS Building, 3rd floor, Room S 303
Tel: 09–218–950/51/52 Extension 2109
e-mail: FNAS@ndu.edu.lb

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FN&AS Building, 3rd floor, Room S 305
Tel: 09–218–950/51/52 Extension 2111
e-mail: mathematics@ndu.edu.lb

Department of Computer Science
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e-mail: cnassif@ndu.edu.lb

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FN&AS Building, 2nd floor, Room S 228
Tel: 09–218–950/51/52 Extension 2080
e-mail: rhajjar@ndu.edu.lb

FACULTY OF NATURAL AND APPLIED SCIENCES

LIST OF FULL-TIME FACULTY MEMBERS

Professors
[1]*Eid, George M*., Ph.D., 1988, *Mathematics*, Polytechnic University, New York, USA
[1]*Kraidy, Michel*, Ph.D., 1967, *Physics*, University of Western Ontario, Canada
[1]*Tarabay, Ajaj*, Ph.D., 1978, *Mathematics*, University of Utah, USA

Associate Professors
Chedid, Fouad, Ph.D., 1990, *Computer Science*, Illinois Institute of Technology, USA
[1]*El-Hage, Youssef K.,* Ph.D., 1990, *Physics*, Technische Universität München, Germany
[1]*Fares, Jean*, Ph.D., 1988, *Mathematics*, University of Wisconsin-Madison, USA
[2]*Ghusayni, Badih,* Ph.D., 1986, *Mathematics,* Auburn University, USA

Assistant Professors
Dib, Robert, Doctorate, 1998, *Biochemistry*, Université de Nantes, France
[3]*Doumit, Jacqueline*, Doctorate, 1996, *Biomedical Engineering*, Université de Saint-Etienne, France
El-Khaldi, Khaldoun, Doctorate, 1996, *Computer Science*, Université de Franche-Comté, France
Ghalayini, Bassem, Ph.D., 1995, *Applied Mathematics*, University of California-Los Angeles, USA
Hage, Tanos, Ph.D., 1995, *Horticulture*, Pennsylvania State University, USA
Hajjar, Roger, Ph.D., 1997, *Physics and Astronomy,* Université de Montréal, Canada
Jaalouk, Doris, Ph.D., 1997, *Biology,* Université de Sherbrooke, Canada
Jajou, Amer F., Ph.D., 1987, *Operations Research*, Univerzita Karlova, Czechoslovakia
Abi Serhal, Colette Kabrita, Ph.D., 1998*, Biology*, Northeastern University, Boston, USA
Khair, Marie, Doctorate, 1996, *Computer Science*, Aristotle University of Thessaloniki, Greece
Keyrouz, Leila Khalaf, Ph.D., 1995, *Environmental Geology*, Westfälische Wilhelms-Universität, Germany
Maalouf, Houda, Ph.D., 1998, *Computer Engineering*, University of London, England
Maalouf, Ramez, Ph.D., 1994, *Mathematics*, University of London, England
[3]*Naser, Ramzi*, Ed.D., 1993, *Mathematics Education*, University of Massachusetts-Lowel, USA
Noun, Ghada, Doctorate, 1998, *Immunology*, Université de Paris XI, Orsay, France
Saliba, Holem, Ph.D., 1997, *Mathematics,* Moscow State University, Russia
Yahia, Najat, Ph.D., 1996, *Nutrition,* University of London, England

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[1] On tenure appointment

[2] Until February 5, 2001

[3] At NDU-North Lebanon Campus

Senior Lecturers

Baroud, Fawzi, M.S., 1985, *Systems Management*, Florida Institute of Technology, USA
Rizk, Nouhad, D.E.S.S., 1984, *Computer Science*, Université de Nancy I, France

Lecturers

Abou-Jaoude, Joseph, M.S., 1985, *Computer Science*, Kent State University, USA
Bou Nassif, Claudia Freiji, M.S., 1991, *Applied Statistics*, Ohio State University, USA
El-Khoury, Jihad, M.S., 1992, *Civil Engineering*, Georgia Institute of Technology, USA
Hajjar, Theresa, M.P.H., *Biostatistics*, 1994, American University of Beirut, Lebanon

Laboratory Instructors

Hage, Rita, M.S., 1988, *Chemistry and Public Health*, American University of Beirut, Lebanon
Maalouf, Nada, M.S., 1996, *Microbiology*, American University of Beirut, Lebanon

Laboratory Assistant

Saliba, Elizabeth, *B.S., 1999, Biology*, Lebanese University, Lebanon

List of Staff Members

Abboud, Danielle, *Secretary*, Department of Sciences
Executive Secretarial Program, 1997, American Universal College, Lebanon
Atallah, Victoria, *Administrative Assistant*, Faculty of Natural and Applied Sciences
Certificat d'Informatique, 1984, Université de Montréal
Geara, Nelly, *Secretary*, Department of Mathematics and Statistics
Certificate in Business Administration Computer, 1997, American Language Center, Lebanon
Sawaya, Rita, *Secretary*, Department of Computer Science
Certificate in Secretarial Studies, 1994, American Language Center, Lebanon
Youssef, Sana', *Printing Officer*

Typing and Keyboarding Center

Hajj, Amal, *Supervisor*

FACULTY OF NATURAL AND APPLIED SCIENCES

Dean: *Dr. Youssef K. El-Hage*
Administrative Assistant: *Mrs. Victoria Atallah*

AIMS

The primary emphasis of the **Faculty of Natural and Applied Sciences** (FN&AS) is on quality education at both the undergraduate and graduate levels. The FN&AS aims at providing students with a broad, modern and sophisticated education in all fields of natural and applied sciences. It assists them in developing knowledge and enhancing competence, skills and capability to resolve technical and scientific problems of our daily life. Almost all of the full-time faculty members are Ph.D. holders who are engaged in research, teaching, curriculum development and academic administration. These full-time faculty members develop the faculty curricula and set up the appropriate academic standards to be attained. The FN&AS subscribes to a considerable number of scholarly journals to keep up with new scientific, technological, teaching methodology and pedagogical developments. The science laboratories, computer center, tutoring center, and mathematics and statistics center are endowed with first-rate equipment.

Departments

The **FN&AS** consists of the following departments:

> Department of Computer Science.
> Department of Mathematics and Statistics.
> Department of Sciences.

Undergraduate Program

Each **undergraduate program** offered at FN&AS is composed of three components:

> General Education Requirements (GER) (27 Credits).
> Core and Major Requirements (71 - 80 Credits).
> Free Elective Requirements (6 Credits).

Undergraduate Degrees

The **Department of Computer Science** offers undergraduate programs leading to the degrees of:

> *BS in Business Computing (90 Credits).
> BS in Computer Science (104 Credits).
> BS in Computer Science (**♣CIS**) (103 Credits).
> BS in Geographical Information Science (92 Credits).

The **Department of Mathematics and Statistics** offers undergraduate programs leading to the degrees of:

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* Bachelor of Science
♣ Computer Information Systems

BS in Actuarial Science and Insurance (112 Credits).
BS in Applied Statistics (90 Credits).
BS in Mathematics (102 Credits).

The **Department of Sciences** offers undergraduate programs leading to the degrees of:

BS in Biology (102 Credits).
BS in Environmental Science (104 Credits).
BS in Medical Laboratory Technology (90 Credits)[1].
BS in Physics (94 Credits).

The Department of Sciences also offers a **Freshman Science Program** consisting of 32 credits. This program leads to a certificate that is equivalent to the official Lebanese Baccalaureate Part II (Scientific Option).

Graduate Programs and Degrees

The FN&AS offers a graduate program in computer science that leads to the degree of

Master of Science (MS) in Computer Science.

This graduate program has two options: Course work option and thesis option. Each option consists of 30 credits.

Summary of Degrees Offered at the FN&AS

Program Titles	Degrees & Certificates	Credits
Actuarial Science and Insurance	BS	112
Applied Statistics	BS	90
Biology	BS	102
Business Computing	BS	90
Computer Science	BS	104
	MS	30
Computer Science (CIS)	BS	103
Environmental Science	BS	104
Freshman Science	Certificate	32
Geographic Information Science	BS	92
Mathematics	BS	102
Medical Laboratory Technology	BS	90[1]
Physics	BS	94

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[1] Plus 300 hours of clinical training amounting to a total of 20 credits

DEPARTMENT OF COMPUTER SCIENCE

Chairperson: *Dr. Fouad Chedid*
Secretary: *Mrs. Rita Sawaya*

Associate Professor
Chedid, Fouad, Ph.D., 1990, Illinois Institute of Technology, USA
Parallel Processing, Algorithms.

Assistant Professors
El-Khaldi, Khaldoun, Doctorate, 1996, Université de Franche-Comté, Besançon, France
Image Processing, OOP.
Khair, Marie, Doctorate,1996, Aristotle University of Thessaloniki, Greece
Databases, Computer Security, Medical Informatics
Maalouf, Houda, Ph.D., 1998, University of London, England
Digital Communications, *Computer Architecture.*

Senior Lecturers
Baroud, Fawzi, M.S., 1985, Florida Institute of Technology, USA
Rizk, Nouhad, D.E.S.S.,1991, Université de Nancy I, France

Lecturers
Abou-Jaoude, Joseph, M.S., 1985, Kent State University, USA
El-Khoury, Jihad, M.S., 1992, Georgia Institute of Technology, USA

Programs of Study
The department of computer science offers both undergraduate and graduate programs leading to the degrees of:
> BS in Business Computing (90 Credits).
> BS in Computer Science (104 Credits).
> BS in Computer Science – (CIS) (103 Credits).
> BS in Geographic Information Science (92 Credits).
> MS in Computer Science (30 Credits).

Undergraduate Programs
The undergraduate programs are designed to prepare students for graduate studies in computer science, computer information systems and business computing, and for a professional career in computer based environments.

The Degree of Bachelor of Science in Computer Science

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 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
(104 credits)

	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.
ARB 211 or ARB 231, and REG 212 or REG 213	
Choose one of the following set of courses:	
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ♠ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
Basic Science Studies	6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	

Core Requirements	**25 cr.**
CSC 200, CSC 212, CSC 222, CSC 313	
MAT 211, MAT 213, MAT 215, MAT 224, MAT 315	

Major Requirements	**46 cr.**
CSC 311, CSC 312, CSC 314, CSC 325, CSC 415, CSC 423, CSC 425, CSC 426, CSC 431, CSC 480, CSC 490.	
MAT 235, MAT 325, MAT 339.	
Choose two courses of the following:	6 cr.
CSC 316, CSC 323, CSC 412, CSC 422.	

Free Electives	**6 cr.**

Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and **(C)**. However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.

Total:	**104 cr.**

♠ 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 (13 Credits)

CSC	200	Keyboarding	1 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
CSC	212	Program Design & Data Abstraction	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

CSC	222	Computer Organization and Assembly Language	3 cr.
CSC	313	Data Structures Using C++	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.

Summer Session I (6 Credits)

MAT	211	Discrete Mathematics	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
_____	___	GER	3cr.

Fall Semester II (12 Credits)

CSC	312	Computer Architecture	3 cr.
CSC	325	Analysis of Algorithms	3 cr.
MAT	315	Linear Algebra II	3 cr.
ARB 211 or 231		GER	3 cr.

Spring Semester II (15 Credits)

CSC	311	Theory of Computation	3 cr.
CSC	314	Programming Languages	3 cr.
CSC	426	Principles of Database Systems	3 cr.
MAT	325	Elements of Probability	3 cr.
REG 212 or 213		GER	3 cr.

Summer Session II (9 Credits)

MAT	339	Numerical Analysis	3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.

Fall Semester III (16 Credits)

CSC	415	Introduction to Operating Systems	3 cr.
CSC	425	Data Communications and Computer Networks	3 cr.
CSC	480	Internship	1 cr.
[1]CSC	___		3 cr.
___	___	Free Elective	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

CSC	490	Senior Study	3 cr.
CSC	431	Compiler Design	3 cr.
CSC	423	Software Engineering	3 cr.
[1]CSC	___		3 cr.
____	___	GER	3 cr.

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[1] Choose one of CSC 316, CSC 323, CSC 412, CSC 422

The Degree of Bachelor of Science in Computer Science *Concentration: Computer Information Systems (CIS)*

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 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 their graduation.

Degree Requirements
(103 credits)

	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.
ARB 211 or ARB 231, and REG 212 or REG 213	
Choose one of the following set of courses:	
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ♠ECN 200, ECN 211, ECN 212, MRK 201, BAD 201, HTM 201	
Basic Science Studies	6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	

Core Requirements	**25 cr.**

CSC 200, CSC 212, CSC 222, CSC 313,
MAT 211, MAT 213, MAT 215, MAT 224, MAT 315

Major Requirements	**45 cr.**

CSC 218, CSC 221, CSC 312, CSC 315, CSC 318, CSC 321,
CSC 325, CSC 423, CSC 425, CSC 426, CSC 480, CSC 490,
MAT 325, MAT 339.

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212

Choose two courses of the following: 6 cr.
    CSC 316, CSC 323, CSC 412, CSC 422.

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

                      Total: **103 cr.**

Bachelor of Science in Computer Science
Concentration: Computer Information Systems
Suggested Program (103 Credits)

Fall Semester I (13 Credits)

CSC	200	Keyboarding	1 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
CSC	212	Program Design & Data Abstraction	3cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

CSC	222	Computer Organization & Assembly Language	3 cr.
CSC	313	Data Structures Using C++	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.

Summer Session I (6 Credits)

MAT	211	Discrete Mathematics	3 cr.
REG 212 or 213		(GER)	3 cr.

Fall Semester II (15 Credits)

CSC	218	Principles of Communications Systems	3 cr.
CSC	321	Advanced Software Packages	3 cr.
CSC	325	Analysis of Algorithms	3 cr.
MAT	315	Linear Algebra II	3 cr.
ARB 211 or 231		GER	3 cr.

Spring Semester II (14 Credits)

CSC	221	Introduction to Database Programming for Business	2 cr.
CSC	312	Computer Architecture	3 cr.
CSC	315	Computer Information Systems	3 cr.
MAT	325	Elements of Probability	3 cr.
____	___	GER	3 cr.

Summer Session II (9 Credits)

MAT	339	Numerical Analysis	3 cr.
____	___	GER	3 cr.
____	___	GER	3cr.

Fall Semester III (16 Credits)

CSC	318	Geographic Information Systems	3 cr.
CSC	426	Principle of Database Systems	3 cr.
CSC	480	Internship	1cr.
[1]CSC	___		3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.

Spring Semester III (15 Credits)

CSC	425	Data Communications & Computer Networks	3 cr.
CSC	423	Software Engineering	3 cr.
CSC	490	Senior Study	3 cr.
[1]CSC	___		3 cr.
____	___	Free Elective	3 cr.

The Degree of Bachelor of Science in Business Computing

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[1] Choose one of the following courses: CSC 316, CSC 323, CSC 412, CSC 422.

Admission Requirements

For admission requirements to the degree of bachelor of science (BS) in Business Computing 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 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.

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Degree Requirements
(90 Credits)

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	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills ENL 221, ENL 239	6 cr.
Computer Skills CSC 201	3 cr.
Cultural Studies ARB 211 or ARB 231, and REG 212 or REG 213 Choose one of the following set of courses: **(A)** PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306	9 cr.
Social Science Studies Choose one of the following set of courses: **(B)** HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, MRK 201, BAD 201, HTM 201	3 cr.
Basic Science Studies **(C)** ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	6 cr.

Core Requirements   **24 cr.**

CSC 200, CSC 212, CSC 221, CSC 313,
ACO 201, ECN 211, MAT 205, MAT 215, STA 206

Major Requirements   **33 cr.**

CSC 215, CSC 231, CSC 315, CSC 318, CSC 321, CSC 325, CSC 330,
ACO 202, STA 207, ECN 212, MAT 315.

Free Electives   **6 cr.**

Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and **(C)**. However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.

Total:	**90 cr.**

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Bachelor of Science in Business Computing
Suggested Program (90 Credits)

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Fall Semester I (15 Credits)

CSC	201	Computers and Their Use (GER)	3 cr.
CSC	212	Program Design & Data Abstraction	3 cr.
ACO	201	Principles of Accounting I	3 cr.
STA	206	Applied Statistics for Business & Economics I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.

Spring Semester I (15 Credits)

ACO	202	Principle of Accounting II	3 cr.
CSC	313	Data Structures Using C++	3 cr.
CSC	200	Keyboarding	1 cr.
CSC	221	Introduction to Database Programming for Business	2 cr.
ENL	239	Technical English for Science (GER)	3 cr.
STA	207	Applied Statistics for Business & Economics II	3 cr.

Fall Semester II (15 Credits)

CSC	215	File Processing & Business Programming Using COBOL	3 cr.
ECN	211	Principles of Microeconomics	3 cr.
MAT	215	Linear Algebra I	3 cr.
MRK	201	Fundamentals of Marketing	3 cr.
ARB 211 or 231		GER	3 cr.

Spring Semester II (15 Credits)

MAT	315	Linear Algebra II	3 cr.
CSC	231	Multimedia Applications	3 cr.
CSC	321	Advanced Software Packages	3 cr.
ECN	212	Principles of Macroeconomics	3 cr.
REG 212 or 213		GER	3 cr.

Fall Semester III (15 Credits)

CSC	315	Computer Information Systems	3 cr.
CSC	318	Geographic Information Systems	3 cr.
CSC	325	Analysis of Algorithms	3 cr.
____	___	GER	3 cr.
____	___	GER	3 cr.

Spring Semester III (15 Credits)

CSC	330	Commercial Software Development	3 cr.
____	___	Free Elective	3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.
____	___	GER	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 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 (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 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.

CSC 218: Principles of Communication Systems (3.0); 3 cr. Spectral analysis, random variables and processes, introduction to queuing theory, analog communication, digital communication, analog to digital conversion, digital-modulation techniques, representation of noise, demodulation techniques, introduction to information theory.

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 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. *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 313.

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 and CEN 170.

CSC 273 Workshop in Computer Aided Architectural Design (1.4); 3 cr. Aims at applying CAD concepts in developing

architectural projects. *Prerequisites*: CSC 201 and RCT 102.

CSC 300 Advanced Keyboarding(0.2); 1 cr. Continuation of CSC 200. *Prerequisite*: CSC 200.

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 212 and MAT 211.

CSC 312 Computer Architecture (3.0); 3 cr. Von Newmann architecture, machine instructions and formats, addressing techniques, microprogramming, fast arithmetic, advanced memory and I/O practices. *Prerequisite:* CSC 222 .

CSC 313 Data Structures Using C++ (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 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 201.

CSC 316 Computers Security and Their Data (3.0); 3 cr. Data transmission frames and protocols, polynomial check, error correction, roll-back, data compression and encryption, access control, intruders, prevention, and detection, security, viruses, and auditing. *Prerequisite:* CSC 313.

CSC 318 Geographic Information Systems (3.0); 3 cr. Principles techniques and applications of geographic information systems. *Prerequisite:* CSC 201.

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 201.

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 313.

CSC 325 Analysis of Algorithms (3.0); 3 cr. An introduction to the design and analysis of computer algorithms and their data structures. Topics include arrays; linked lists; queues; stacks; hash tables; binary search trees; heaps; AVL trees; B-trees; graphs; searching and sorting; algorithmic efficiency; running time calculation; divide-and-conquer; dynamic programming; greedy algorithms. *Prerequisite:* CSC 313.

CSC 330 Commercial Software Development (3.0); 3cr. Topics include software design, development, testing, documentation, maintenance, marketing and production. Also examines software piracy, copyrights, patents, and similar issues. Students develop, test, and market a commercial piece of software. *Prerequisite:* CSC 325.

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. *Prerequisite:* CSC 313.

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 325.

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 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 313.

CSC 423 Software Engineering (3.0); 3 cr. Techniques of software development, testing, and management. *Prerequisite:* CSC 323.

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 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 325.

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 and CSC 325.

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 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 Science in Geographic Information Science

Admission Requirements
For admission requirements to the degree of BS in Geographic Information Science refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements
To receive the degree of BS in Geographic Information Science, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 92 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.

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Degree Requirements
(90 Credits)

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	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.
ARB 211 or ARB 231, and REG 212 or REG 213	
Choose one of the following set of courses:	
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ♠ECN 200, ECN 211, ECN 212, MRK 201, HTM 201	
Basic Science Studies	6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	

Core Requirements   **25 cr.**
CSC 212, CSC 273, CSC 313, CSC 323
MAT 213, MAT 224, PHS 203, GEO 201

Major Requirements   **32 cr.**
CEN 150, CEN 151, CSC 371, CSC 426,
GIS 211, GIS 311, GIS 321, GIS 331, GIS 341, GIS 351, GIS 411, GIS 490

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212

Free Electives   **6 cr.**

Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and **(C)**. However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.

	Total:	**90 cr.**

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	212	Program Design & Data Abstraction	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
PHS	203	General Physics III	3 cr.

Spring Semester I (16 Credits)

CSC	313	Data Structures Using C++	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	224	Calculus IV	3 cr.
GIS	211	Principles of GIS	3 cr.
GEO	201	Physical Geology	4 cr.

Summer Session (4 Credit)

CEN	150	Surveying	3 cr.
CEN	151	Field Surveying	1 cr.

Fall Semester II (15 Credits)

CSC	325	Analysis of Algorithms	3 cr.
CSC	273	Workshop in Computer Aided Architectural Design	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
GIS	311	Desktop GIS	3 cr.
ARB 211 or 231		GER	

Spring Semester II (13 Credits)

CSC	426	Principles of Database Systems	3 cr.
GIS	341	Cartography & Automated Mapping	3 cr.
CSC	371	Wrkshop Advanced Programming	1 cr.
____	____	GER	3 cr.
____	____	Free Elective	3 cr.

Fall Semester III (12 Credits)

GIS	321	Spatial Analysis and Modeling	3 cr.
GIS	331	Implementations of GIS	3 cr.
GIS	351	Photogrammetry & Remote Sensing	3 cr.
____	___	GER	3 cr.

Spring Semester III (15 Credits)

____	____	GER	3 cr.
GIS	411	Geodetic Science & Satellite Positioning	3 cr.
GIS	490	GIS Project	3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.

Undergraduate Courses: Geographic Information Science

GIS 211 Principles of GIS (3.0); 3 cr. An overview of the concepts functions, applications, technologies, and trends associated with Geographic Information Systems and computer based mapping.

GIS 311 Desktop GIS (3.0); 3 cr. Topics include spatial data and database management, hardware and software considerations, GIS applications, project planning, education and training, and implementation. Hands-on experience with PC-based Geographic Information Systems software. The course utilizes E.S.R.I.'s ArcView GIS software. *Prerequisites:* GIS 211 and CSC 201.

GIS 321 Spatial Analysis and Modeling (3.0); 3 cr. Introduction to spatial models, maps, photographs and drawings. Types of data, geometrical, topological, attribute, statistical. Data convergence. Data refinement. Data transfer and storage systems. Vector and raster principles. Representing surfaces through elevation and triangulated networks. Analyst techniques: queries, calculations, fuzzy logic, and overlay options. Arial interpolation, terrain analysis and network analysis. Databases *Prerequisites:* GIS 211, GIS 311.

GIS 331 Implementations of GIS (3.0); 3 cr. This course introduces the use of GIS as an analysis and marketing/ design tool in business and Engineering Applications. *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. *Prerequisite:* GEO 201.

GIS 351 Photogrammetry and Remote Sensing (3.0); 3 cr. the nature of remote sensing. Optical radiation models. Sensor models. Data models. Spectral ans 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. *Prerequisite:* PHY 203

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.

Graduate Program: Computer Science

The 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.

Degree Requirements
Course-Work Option
(30 Credits)

	Number of Credits (cr.)
1- Complete the following courses CSC 615, CSC 616, CS 621, CSC 622 CSC 625, CSC 626, CSC 632, CSC 670 MAT 661, MAT 662.	**30 cr.**

Comprehensive Written Examinations (CWE)

Pass two comprehensive written examinations in two areas of computer science: Theory and systems. The theory CWE is composed of three sections drawn from CSC 622, CSC 661, and CSC 662. The system CWE is composed of six sections drawn from CSC 615, CSC 616, CSC 621, CSC 625, and CSC 632, where the student is expected to answer any four sections of his/her choice. The CWEs are scheduled once a year at the end of the Spring semester. Students are encouraged to sign for the theory examination at the end of their first year. Those who fail any CWE are allowed to retake it only once thereafter, but no later than the end of the following academic year.

Master of Science in Computer Science (Course-Work Option)
Suggested Program (30 Credits)

Fall Semester (12 Credits)

CSC	615	Advanced Computer Architecture	3 cr.
CSC	616	Advanced Database Systems	3 cr.
CSC	625	Advanced Operating systems	3 cr.
MAT	661	Computational Mathematics I	3 cr.

Spring Semester (12 Credits)

CSC	621	Advanced Compiler Design	3 cr.
CSC	622	Advanced Analysis of Algorithms	3 cr.
CSC	626	Computer Communication and Networks	3 cr.
MAT	662	Computational Mathematics II	3 cr.

Summer Session (6 Credits)

CSC	632	Artificial Intelligence	3 cr.
CSC	670	Selected Topics in Computer Science	3 cr.

Degree Requirements
(Thesis Option)
(30 Credits)

	Number of Credits (cr.)
1- Complete the following courses	**24 cr.**
CSC 615, CSC 616, CS 621, CSC 622, CSC 625, CSC 626, MAT 661, MAT 662.	
2- Complete the following thesis courses	
CSC 691 Master Thesis in Computer Science Part I	**3 cr.**
CSC 692 Master Thesis in Computer Science Part II	**3 cr.**
Total:	**30 cr.**

Master of Science in Computer Science (Thesis Option)
Suggested Program (30 Credits)

Fall Semester I (9 Credits)

CSC	615	Advanced Computer Architecture	3 cr.
CSC	616	Advanced Database Systems	3 cr.
MAT	661	Computational Mathematics I	3 cr.

Spring Semester I (9 Credits)

CSC	621	Compiler Design	3 cr.
CSC	622	Advanced Analysis of Algorithms	3 cr.
MAT	662	Computational Mathematics II	3 cr.

Fall Semester II (6 Credits)

CSC	625	Advanced Operating systems	3 cr.
CSC	691	Master Thesis in Computer Science I	3 cr.

Spring Semester II (6 Credits)

CSC	692	Master Thesis in Computer Science II	3 cr.
CSC	6xx	Elective	3 cr.

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 3.0/4.0 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 bounded 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 at most one month from the date of the appointment of the jury

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 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. *Prerequisite*: CSC 311 or its equivalence.

CSC 612 Advanced Computer Graphics (3.0); 3 cr. Topics include: mathematical techniques for curve and surfaces; color systems; fractels hidden lines and hidden shad up; surface mapping and ray tracing; techniques of animation. *Prerequisite:* CSC 412 or its equivalence.

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. *Prerequisite:* CSC 412 or its equivalence.

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. *Prerequisite:* CSC 323 or its equivalence.

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. *Prerequisite*: CSC 312 or its equivalence.

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. *Prerequisite:* CSC 426 or its equivalence.

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. *Prerequisite:* CSC 431 or its equivalence.

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. *Prerequisite:* CSC 325 or its equivalence.

CSC 623 Advanced Software Engineering (3.0); 3 cr. This course is an extension of CSC 423 with emphasis on the design analysis, development and management of software projects. HIPO diagrams, cost-effect graphs, probabilistic models: complexity, errors, regression. *Prerequisite:* CSC 423 or its equivalence.

CSC 625 Advanced Operating Systems (3.0); 3 cr. Development of the analysis and design of operating systems. Techniques involved in managing memory, processors, devices information, and performance evaluation. *Prerequisite:* CSC 415 or its equivalence.

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). *Prerequisite:* CSC 425 or its equivalence.

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. *Prerequisite:* CSC 313 or its equivalence.

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. *Prerequisites:* CSC 323 or its equivalence.

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 670 Selected Topics in Computer Science (3.0); 3 cr. Topics of current interest in computer science. *Prerequisite:* Specified When Offered.

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. *Prerequisite:* Advisor Consent.

CSC 692 Master Thesis in Computer Science II 3 cr. Continuation of CSC 691. *Prerequisite:* CSC 691 and Advisor consent.

DEPARTMENT OF MATHEMATICS AND STATISTICS

Chairperson: *Dr. Jean Fares*
Secretary: *Miss Nelly Geara*

Professor
[1]***Eid, George M.,*** Ph.D., 1988, Polytechnic University, New York, USA
Measure Theory, Numerical Linear Algebra
[1]***Tarabay, Ajaj***, Ph.D., 1978, University of Utah, USA
Several Complex Variables, Group Theory

Associate Professors
[1]***Fares, Jean***, Ph.D., 1988, University of Wisconsin-Madison, USA
Algebraic Topology, Nonlinear Programming
Ghusayni, Badih, Ph.D., 1986, Auburn University, USA
Real Analysis, Harmonic Analysis

Assistant Professors
Ghalayini, Bassem, Ph.D., 1995, University of California, Los Angeles, USA
Partial Differential Equations
Jajou, Amer F., Ph.D., 1987, Univerzita Karluva, Czechoslovakia
Operations Research, Statistics
Maalouf, Ramez, Ph.D., 1994, University of London, England
Complex Analysis, Fractal Geometry
[2]***Naser, Ramzi***, Ed.D., 1993, University of Massachusetts-Lowell, USA
Mathematics Education
Saliba, Holem, Ph.D., 1997, Moscow State University, Russia
Logic and Number Theory

Lecturers
Bou Nassif, Claudia Freiji, M.S., 1991, Ohio State University, USA,
Applied Statistics, Actuarial Science and Insurance
Hajjar, Theresa, M.P.H., 1994, American University of Beirut, Lebanon
Biostatistics

Programs of Study
The department offers programs in applied statistics, actuarial science and insurance, and mathematics leading to the degrees of:

>   BS in Actuarial Science and Insurance (112 Credits).
>   BS in Applied Statistics (90 Credits).
>   BS in Mathematics (102 Credits).

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[1] On tenure appointment
[2] At NDU-North Lebanon Campus

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. So an actuary has to:

> Asses risks.
> Project mortality rates.
> Take account of economic factors.
> Determine levels of premiums on long-term contracts.
> Forecast benefits and contributions in both the short-term and the long-term.

in environments such as social security, pension funds, insurance companies, and also 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 of 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 be prepared to take a series of examinations in actuarial science sponsored by international organizations.

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 his/her 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.

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Degree Requirements
112 Credits

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	Number of Credits (cr.)
General Education Requirements	**27 cr.**

      Communications Skills   6 cr.
      ENL 221, ENL 239
      Computer Skills   3 cr.
      CSC 201
      Cultural Studies   9 cr.
      ARB 211 or ARB 231, and REG 212 or REG 213
      Choose one of the following set of courses:
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306
      Social Science Studies   3 cr.
      Choose one of the following set of courses:
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,
      MRK 201, HTM 201
      Basic Science Studies   6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202,
      AST 201.

Core Requirements   **39 cr.**
BAD 201, CSC 321, ECN 211, ECN 212,
MAT 205, MAT 213, MAT 215, MAT 224, MAT 235,
STA 206, STA 207, STA 208, STA 312

Major Requirements   **43 cr.**
ACS 310, ACS 314, ACS 320, ACS 324, ACS 327, ACS 330, ACS 421,
ACS 424, ACS 450, ACS 460, ACS 480,
MAT 325, MAT 339, STA 315, STA 310

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

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Total: 112 cr.

Bachelor Science in Actuarial Science and Insurance
Suggested Program (112 Credits)

Fall Semester I (15 Credits)

CSC	201	Computers and Their Use (GER)	3 cr.
ECN	211	Principles of Microeconomics	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
STA	206	Applied Statistics for Business & Economics I	3 cr.
ARB 211 or 231		GER	3 cr.

Spring Semester I (15 Credits)

ECN	212	Principles of Macroeconomics	3 cr.
MAT	213	Calculus III	3 cr.
STA	207	Applied Statistics for Business & Economics II	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
STA	208	Statistical Computing	3 cr.

Summer Session I (9 Credits)

MAT	205	Mathematics of Finance	3 cr.
MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.

Fall Semester II (15 Credits)

ACS	310	General Insurance	3 cr.
BAD	201	Fundamentals of Management	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
MAT	325	Elements of Probability	3 cr.
REG 212 or 213		GER	3 cr.

Spring Semester II (15 Credits)

ACS	314	Life and Multi-life Contingencies	3 cr.
ACS	320	Mathematics of Demography	3 cr.
STA	312	Introductory Time Series Analysis	3 cr.
STA	315	Mathematical Statistics	3 cr.
___	___	GER	3 cr.

Summer Session II (9 Credits)

MAT	339	Numerical Analysis	3 cr.
CSC	321	Advanced Software Packages	3 cr.
___	___	GER	3 cr.

Fall Semester III (16 Credits)

ACS	324	Life Insurance	3 cr.
ACS	327	Risk Theory	3 cr.
ACS	330	Insurance Law and Regulations	3 cr.
ACS	480	Internship	1 cr.
____	___	GER	3 cr.
____	___	Free Elective	3 cr.

Spring Semester III (18 Credits)

ACS	421	Credibility Theory and Loss Distributions	3 cr.
ACS	424	Pension Fund Mathematics	3 cr.
ACS	450	Investment & Asset Management	3 cr.
ACS	460	Topics in Life Insurance and Pensions	3 cr.
____	___	GER	3 cr.
____	___	Free Elective	3 cr

Undergraduate Courses: Actuarial Science & Insurance

ACS 310 General Insurance (3.0); 3 cr. Nature of the insurance industry; risk and uncertainty; valuation data and verification procedures; valuation of liabilities and assets; reinsurance contracts; investment principles and asset choice; interpreting accounts; asset-liability matching.

ACS 314 Life and Multi-life Contingencies (3.0); 3 cr. Life contingencies, life annuities, pure endowments, annual payments, continuous annuities, premium reserves. Population theory, multiple life functions; joint life probabilities; laws of uniform seniority; probability of decrement. *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 Life Insurance (3.0); 3 cr. Fully continuous and fully discrete premiums; true monthly payment premiums; accumulation type benefits. Premium reserves; fully discrete and fully continuous reserves. Insurance models including expenses. *Prerequisite:* ACS 314.

ACS 327 Risk Theory (3.0); 3 cr. Individual risk models; collective risk models for a single and an extended period; claim amount distributions; distribution of aggregate claims; probability of ruin; stop-loss reinsurance. *Prerequisite:* ACS 314.

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 and inferential statistics in property-casualty insurance; skewness and heavy tailed distributions; maximum likelihood estimators. Bayesian estimation; limited fluctuation, full, and partial credibility; Buhlmann credibility. *Prerequisite:* STA 315.

ACS 424 Pension Fund Mathematics (3.0); 3 cr. The joint life and last-survivor status; insurance and annuity benefits; simple contingent functions. Single and multiple decrement tables; net single premiums. Age-service retirement benefits; disability and withdrawal benefits; commutation functions. *Prerequisite:* ACS 314.

ACS 430 Actuarial Science Practicum (3.0); 3 cr. A supervised practice of the actuarial science theory, which is based on real life problems. *Prerequisite:* senior standing

ACS 450 Investment and Asset Management (3.0); 3 cr. Taxation of investments; financial institutions; money market instruments; market analysis; debts; equity classification; convertible securities, collective investment vehicles; property investment; property valuation; investment decision. *Prerequisite*: Senior Standing.

ACS 460 Topics in Life Insurance and Pension (3.0); 3 cr. Family income insurance; retirement income policies; flexible plan products; disability benefits for individual life insurance. Compound status; contingent probability and insurance; net premium and reserve. Terminal funding; basic functions for active and retired members. *Prerequisites:* ACS 327 and ACS 424.

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 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.
> The profession of 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 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 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.

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Degree Requirements
90 Credits

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	Number of Credits (cr.)
General Education Requirements	**27 cr.**

    Communications Skills — 6 cr.
    ENL 221, ENL 239

    Computer Skills — 3 cr.
    CSC 201

    Cultural Studies — 9 cr.
    ARB 211 or ARB 231, and REG 212 or REG 213
    Choose one of the following set of courses:
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.

    Social Science Studies — 3 cr.
    Choose one of the following set of courses:
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,
    BAD 201, HTM 201, MRK 201

    Basic Science Studies — 6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202,
    AST 201.

Core Requirements — **24 cr.**
MAT 213, MAT 215, MAT 224,
STA 203, STA 206, STA 207, ECN 211, ECN 212.

Major Requirements 45 cr.

MAT 315, MAT 325, STA 303, STA 305, STA 305, STA 315, STA 317,
STA 400, STA 450, STA 460, STA 490.

Free Electives 6 cr.

Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

		Total:	**90 cr.**

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.
STA	206	Applied Statistics for Business and Economics I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

ECN	212	Principles of Macroeconomics	3 cr.
MAT	215	Linear Algebra I	3 cr.
STA	207	Applied Statistics for Business and Economics II	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
STA	208	Statistical Computing	3 cr.

Fall Semester II (15 Credits)

MAT	315	Linear Algebra II	3 cr.
MAT	224	Calculus VI	3 cr.
STA	203	Biostatistics	3 cr.
REG 212 or 213		GER	3 cr.
ARB 211 or 231		GER	3 cr.

Spring Semester II (15 Credits)

MAT	325	Elements of Probability	3 cr.
STA	303	Statistical Inference	3 cr.
STA	305	Sampling Theory	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Fall Semester III (15 Credits)

ACS	320	Mathematics of Demography	3 cr.
STA	312	Introductory Time Series Analysis	3 cr.
STA	315	Mathematical Statistics	3 cr.
___	___	Free Elective	3 cr.
___	___	GER	3 cr.

Spring Semester III (15 Credits)

STA	325	Design of Experiments	3 cr.
STA	450	Topics in Applied Statistics	3 cr.
STA	490	Senior Project	3 cr.
___	___	Free Elective	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. A statistical software package will be used.

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.

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 208 Statistical Computing (3.0); 3cr. Introduction to the use of statistical software packages in solving statistical models. *Prerequisite:* CSC 201 & STA 206.

STA 209 Applied Statistics (3.0); 3 cr. Frequency distribution; measures of central tendency and dispension; probability laws; random variables; sampling and estimations. 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; corelation; regression. *Prerequisite*: STA 207

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 207.

STA 312 Introductory Time Series Analysis (3.0); 3 cr. Statistical models for time series decomposition; linear and nonlinear analysis; spectral methods; data smoothing methods; forcasting models. *Prerequisite:* STA 207.

STA 315 Mathematical Statistics (3.0); 3 cr. Sampling; estimation; hypothesis testing; t-distribution; chi-square distribution; F-distribution; linear regression and correlation. Experimental design; 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 207.

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 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 631 Data Analysis (3.0); 3 cr. Non-standard analysis of statistical problems; design diagnostics. Regression analysis; test of goodness of fit; ANOVA; observational; graphical and exploratory data analysis; nonparametric methods; a statistical software package will be used.

STA 653 Stochastic Processes (3.0); 3 cr. Random walk; recurrent events; discrete and continuous time; Markov chains; branching processes; Poisson processes; nonhomogeneous and compound Poisson processes; queuing theory and Brownian motion.

STA 654 Regression and Analysis of Variance (3.0); 3 cr. Linear and multiple regression; analysis of variance factorial designs; Latin squares; block and nested designs; applications and aims of time-series analysis; stationary and nonstationary time series.

The degree of Bachelor of Science in Mathematics

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 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 of graduation.

Degree Requirements
102 Credits

	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.

General Education Requirements   **27 cr.**

    Communications Skills   6 cr.
    ENL 221, ENL 239
    Computer Skills   3 cr.
    CSC 201
    Cultural Studies   9 cr.
    ARB 211 or ARB 231, and REG 212 or REG 213
    Choose one of the following set of courses:
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.
    Social Science Studies   3 cr.
    Choose one of the following set of courses:
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,
    ♠ECN 211, ECN 212, MRK 201, BAD 201, HTM 201
    Basic Science Studies   6 cr.
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202,
    AST 201.

Core Requirements   **24 cr.**
CSC 212,
MAT 211, MAT 213, MAT 215, MAT 224, MAT 235,
PHY 213, CHM 211.

Major Requirements   **45 cr.**
MAT 315, MAT 323, MAT 325, MAT 333, MAT 335, MAT 339,
MAT 411, MAT 413, MAT 421, MAT 423, MAT 450,
CSC 311, CSC 313, CSC 325, STA 315.

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

                                                      Total: **102 cr.**

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Mathematics
Suggested Program (102 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	221	Sophomore English for Science (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	239	Technical English for Science (GER)	3 cr.

Summer Session I (6 Credits)

CHM	211	Principles of Chemistry	3 cr.
ARB 211 or 231		GER	3 cr.

Fall Semester II (15 Credits)

CSC	311	Theory of Computation	3 cr.
MAT	315	Linear Algebra II	3 cr.
MAT	323	Vector and Tensor Analysis	3 cr.
MAT	325	Elements of Probability	3 cr.
REG 212 or 213		GER	3 cr.

Spring Semester II (15 Credits)

CSC	313	Data Structures in C++	3 cr.
MAT	333	Complex Variables	3 cr.
MAT	335	Partial Differential Equations	3 cr.
MAT	339	Numerical Analysis	3 cr.
___	___	GER	3 cr.

Summer Session II (6 Credits)

CSC	325	Analysis of Algorithms	3 cr.
STA	314	Mathematical Statistics	3 cr.

Fall Semester III (15 Credits)

MAT	411	Abstract Algebra I	3 cr.
MAT	413	Advanced Calculus I	3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.
____	___	GER	3 cr.

Spring Semester III (15 Credits)

MAT	421	Abstract Algebra II	3 cr.
MAT	423	Advanced Calculus II	3 cr.
MAT	450	Introduction to General Topology	3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.

Undergraduate Courses: Mathematics

MAT 001 Basic Mathematics (0.5); 0 cr. Integers, fractions, ratios; rates, proportions, decimals, percents, sets, Cartesian product, real numbers, intervals, linear equations and inequalities, formulas, word problems, applications, geometry. *Prerequisite:* Placement.

MAT 100 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 (4.0); 4 cr. Coordinates system; lines in the plane functions and graphs, linear, and polynomial functions, rational functions, limits; continuity; derivatives; differentiation; maxima and minima problems; antiderivatives and integrals. *Prerequisite:* MAT 100 or Placement.

MAT 111 Calculus and Analytic Geometry I (4.0); 4 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 (4.0); 4 cr. Integration; applications of definite integrals; areas, volumes, length, moments. Transcendental functions; Inverse functions and their derivatives, hyperbolic functions and their derivatives. *Prerequisite:* MAT 111 or Placement.

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 (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 of Finance (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.

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. Techniques of integration; improper integrals. infinite series; Taylor and Maclaurin series. Parametrized curves and polar coordinates; graphing and integration in polar coordinates. *Prerequisite:* MAT 112 or Placement.

MAT 215 Linear Algebra I (3.0); 3 cr. Linear systems and matrices and their applications; determinants; vector spaces; change of basis; eigenvalues and eigenvectors; linear transformations and their algebraic properties. *Prerequisite:* Sophomore Standing.

MAT 224 Calculus IV (3.0); 3 cr. Analytic geometry in space; cylindrical and spherical coordinates. Vector-valued functions; space curve, curvature. Functions of two or more variables, partial derivatives, Lagrange multipliers, Taylor's formula. Multiple integrals; applications to masses and moments. *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:* Sophomore Standing.

MAT 303 Mathematical Logic and Set Theory (3.0); 3 cr. Axiomatic theory of sets; the axiom of choice; prepositional logic; quantification theory; formal construction of the sets N; Z; Q; R; and 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 315 Linear Algebra II (3.0); 3 cr. The geometry of linear transformation, quadratic forms and conic sections; inner product spaces; orthogonality; orthogonal matrices; normed spaces; diagonalization; and orthogonal diagonalization. *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 326 Probability and 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. *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 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-Christofell transformation. *Prerequisite:* MAT 224.

MAT 335 Partial Differential Equations (3.0); 3 cr. Linear partial differential equations. Separation of variables; closed form solutions; transform techniques; and numerical methods. Fourier series and Fourier transform, the Dirichelet and Neumann problems. *Prerequisite:* MAT 235 and 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 235.

MAT 400 Modern Geometry (3.0); 3 cr. An axiomatic study of the foundations of Euclidean; non-Euclidean; affine; and projective geometry. Transformation groups; convexity; and Minkowski spaces. *Prerequisite:* Senior Standing.

MAT 411 Abstract Algebra I (3.0); 3 cr. Groups; permutation groups; the Sylow theorems and their applications; rings; ideals; quotient rings; Euclidean rings; polynomial rings; modules. *Prerequisite:* Senior Standing.

MAT 413 Advanced Calculus I (3.0); 3 cr. The topological properties of the real number system; uniform continuity; Weierstrass approximation theorem; Riemann-Steiltjes integral; uniform convergence; improper integrals with a parameter; the Beta and Gamma functions. *Prerequisite:* Senior Standing.

MAT 421 Abstract Algebra II (3.0); 3 cr. Field extension; automorphism of fields; separable and normal extensions; finite fields; Galois theory. *Prerequisite:* MAT 411.

MAT 423 Advanced Calculus 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 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.

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:* MAT 211 or its equivalence.

MAT 601 Linear Programming (3.0); 3 cr. Formulations and algorithms of linear programming problems; convex sets; variants of the simplex algorithm; sparsity; duality and post-optimality analysis; decomposition of large-scale problems; and piece-wise linear programming. *Prerequisites:* MAT 215 and OPR 318.

MAT 602 Nonlinear Programming (3.0); 3 cr. Classical methods in optimizing nonlinear problems; constraints and Lagrangian methods; duality and its interpretation; geometric; quadratic; convex; and dynamic programming; Kuhn-Tucker theory. *Prerequisite:* MAT 224 or its equivalence.

MAT 621 Advanced 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:* MAT 421 or its equivalence.

MAT 623 Advanced 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 :* MAT 423 or its equivalence.

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:* MAT 450.

MAT 632 Advanced Algebra II (3.0); 3 cr. Projective and injective modules; tensor product.

Field extensions; Galois theory; finite fields; separability; cyclic extension; radical extension. *Prerequisite :* MAT 621.

MAT 634 Advanced Analysis II (3.0); 3 cr. Power series representation; conformal mappings; zeros of holomorphic functions; analytic continuation; normal families; HP spaces. *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 theorem; two dimensional systems; the Poincaré-Bendixon theory; stability of linear and perturbed linear systems; two dimensional linear autonomous systems; the saddle point property; linear periodic systems. *Prerequisite:* MAT 235 or its equivalence.

MAT 642 Theory of Partial Differential Equations (3.0); 3 cr. Partial differential equations. Cauchy-Kowalowski theorem; first order differential equations. System of differential equations in two variables; characteristics and classification; hyperbolic; parabolic and elliptic systems; wellposedness. *Prerequisite:* MAT 335 or its equivalence.

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:* MAT 215 or its equivalence.

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 Mathematical Techniques in Information Theory (3.0); 3 cr. Topics include algebraic codes; convolution codes and other encoding schemes; error-correcting codes; the concepts of entropy and mutual information as mathematical measures. *Prerequisite:* MAT 325 or its equivalence.

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. *Prerequisite:* MAT 691 and Advisor Consent.

Undergraduate Courses: Operations Research

OPR 318 Deterministic Operations Research (3.0); 3 cr. Linear programming; simplex algorithm; duality; allocation and transportation problems; network flows; integer programming. *Prerequisite:* MAT 215.

OPR 319 Stochastic Operations Research (3.0); 3 cr. Stochastic models; decision theory; sensitivity analysis; Monte Carlo methods; Markov process; queuing theory; inventory analysis; and reliability. *Prerequisite:* MAT 325 or STA 207.

DEPARTMENT OF SCIENCES

Chairperson: *Dr. Layla Khalaf Keyrouz*
Secretary   : *Miss Danielle Abboud*

Professor
[1]***Kraidy, Michel***, Ph.D., 1967, University of Western Ontario, Canada
Nuclear Physics, Physics Education

Associate Professor
[1]***El-Hage, Youssef K.,*** Ph.D., 1990, Technische Universität München, Germany
Nuclear Physics, Philosophy

Assistant Professors
Bou Serhal, Colette Kabrita, Ph.D., 1998, Northeastern University, Boston, USA
Neurobiology
Dib, Robert, Doctorate, 1998, Université de Nantes, France
Biochemistry
[2]***Doumit, Jacqueline***, Doctorate, 1996, Université de Saint Etienne, France
Biomedical Engineering, Biochemistry
Hage, Tanos, Ph.D., 1995, Pennsylvania State University, USA
Plant Biochemistry and Molecular Biology
Hajjar, Roger, Ph.D., 1997, Université de Montréal, Canada
Physics and Astronomy
Jaalouk, Doris, Ph.D., 1997, Université de Sherbrooke, Canada
Cellular Biology
Keyrouz, Layla Khalaf, Ph.D., 1995, Westfälische Wilhems-Universität, Germany
Environmental Geology
Noun, Ghada, Doctorate, 1998, Université de Paris XI, Orsay, France
Immunology
Yahia, Najat, Ph.D., 1996, University of London, England
Nutrition

Laboratory Instructors
Maalouf, Nada, M.S., *Biology*, 1996, American University of Beirut, Lebanon
Hage, Rita, M.S., *Public Health*, 1988, American University of Beirut, Lebanon

Laboratory Assistant
Saliba, Elizabeth, B.S., Biology, 1999, Lebanese University, Lebanon

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[1] On tenure appointment
[2] At NDU-North Lebanon Campus

Freshman Science Program

Academic Advisor: *Dr. Roger Hajjar*

The **freshman science program** consists of 32 credits. This program is equivalent to the official Lebanese Baccalaureate Part II (Scientific Option). It normally requires a minimum period of study of 2 semesters as shown below:

Freshman Science
Suggested Program (32 Credits)

Fall Semester (17 Credits)

CHM	101	General Chemistry I	3 cr.
CHM	171	General Chemistry I Laboratory	1 cr.
ENL	109	Freshman English I for Science	3 cr.
MAT	111	Calculus and Analytic Geometry I	4 cr.
PHL	101	Introduction to Philosophy	3 cr.
PHS	101	General Physics I	3 cr.

Spring Semester (15 Credits)

CHM	102	General Chemistry II	3 cr.
CHM	172	General Chemistry II Laboratory	1 cr.
ENL	110	Freshman English II for Science	3 cr.
MAT	112	Calculus and Analytic Geometry II	4 cr.
PHS	102	General Physics II	3 cr.
PHS	171/172	Laboratory General Physics I/II	1 cr.

Freshman science students wishing to join the Faculty of Business Administration and Economics may replace PHS 102 by BIO 101, and PHS 171 or PHS 172 by BIO 171.

Undergraduate Programs

In addition to the freshman science program, the department of sciences offers undergraduate programs leading to the degrees of:

- BS in Biology (102 Credits).
- BS in Environmental Science (104 Credits).
- BS in Medical Laboratory Technology (90 Credits) + (300 hours in clinical training).
- BS in Physics (94 Credits).

The department of sciences also offers a variety of undergraduate courses in astronomy chemistry, geology, health and nutrition. In part, these courses are used to serve other academic programs offered by the University.

The Degree of Bachelor of Science in Biology

The biology program is designed to prepare students for a wide range of employment opportunities, including entry 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 & genetic engineering. A B.Sc. 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 for Graduation
To receive the degree of BS in Biology, a student must fulfill all requirements of his/her 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 of graduation.

Degree Requirements
102 Credits

	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.
ARB 211 or ARB 231, and REG 212 or REG 213	
Choose one of the following set of courses:	
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ♠ECN 200, ECN 211, ECN 212, MRK 201, BAD 201, HTM 201	
Basic Science Studies	6 cr.
Choose two of the following set of courses:	
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201	

Core Requirements	**42 cr.**

BIO 211, BIO 212, BIO 220, BIO 227
CHM 211, CHM 215, CHM 221, CHM 222, CHM 272,
PHS 212, PHS 213, PHS 271, PHS 272, MAT 203, STA 203**.**

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Major Requirements   **27 cr.**
      BIO 324, BIO 335, BIO 485 or BIO495
      Choose two biology courses for 4 credits each.
      Choose three biology courses for 3 credits each, excluding
      BIO 202, and BIO 203

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

                                                                       Total: **102 cr.**

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	221	Sophomore English for Science (GER)	3 cr.
ARB 211 or 231		GER	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.

Spring Semester I (16 Credits)

BIO	212	General Biology II	4 cr.
CHM	221	Organic Chemistry I	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	203	Calculus III	3 cr.
REG 212 or 213		GER	3 cr.

Summer Session I (6 Credits)

NTR	201	Basic Human Nutrition (GER)	3 cr.
___	___	GER	3 cr.

Fall Semester II (15 Credits)

BIO	220	Genetics	3 cr.
BIO	___		3 cr.
CHM	222	Organic Chemistry II	3 cr.
CHM	272	Organic Chemistry Laboratory	2 cr.
PHS	213	Modern Physics	3 cr.
PHS	272	Modern Physics Laboratory	1 cr.

Spring Semester II (14 Credits)

BIO	227	Biochemistry	3 cr.
CHM	215	Quantitative Analysis	4 cr.
PHS	212	Electricity & Magnetism	3 cr.
PHS	271	Electricity & Magnetism Laboratory	1 cr.
STA	203	Biostatistics	3 cr.

Summer Session II (6 Credits)

___	___	GER	3 cr.
___	___	Free Elective	3 cr.

Fall Semester III (14 Credits)

BIO	335	Cell Biology	4 cr.
BIO	___		3 cr.
BIO	___		4 cr.
____	___	GER	3 cr.

Spring Semester III (15 Credits)

BIO	324	Plant Physiology	4 cr.
BIO	___		4 cr.
BIO	___		3 cr.
BIO 485 or 495		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 Biology Past and Present, (3.0) 3 cr. A chronological overview of the development of biology from ancient to modern times, followed by a more in-depth look at the development of disciplines within the field of biology. Not open for Biology students.

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 215 Introductory Human physiology (3.0); 3 cr. A study of the fundamental principles and mechanisms that govern body functions in humans. *Prerequisite:* BIO 211.

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 212.

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 212.

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 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.

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 203

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 or consent of instructor.

BIO 320 Microbiology (3.2); 4 cr. Covers structures, isolation, classification and metabolic

diversity of microorganisms. *Prerequisite:* BIO 212.

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. *Prerequisite:* 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. *Prerequisite:* BIO 220 and 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 Industrial Microbiology and Biotechnology; (3.0) 3 cr. Deals with the use of microorganisms to produce valuable commercial products or carry out important chemical transformations as well as the isolation, manipulation, and expression of genetic material in microbial cultures capable of producing valuable substances such as human insulin, human growth hormone, and industrial enzymes. *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 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 and 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 211.

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 contest that integrates biology, land management protection, development, and socioeconomic and political constraints. *Prerequisites*: BIO 314 also listed as ENS 424.

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 (2,0) 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; (3.0) 1-3 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 Environmental Science

The recent environmental challenges on the local, regional and global scale make it clear that environmental issues are becoming a major concern in our professional as well as 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, environmental components as air, water and soil, pollution sources and environmental degradation. Environmental scientists are equally prepared for problem solving, pollution prevention, environmental protection and natural resources conservation.

Holders of a BS degree in environmental science will be ideally suited for careers in:

> *Public domain*: Ministries of environment, water resources, electricity, oil and urban planning.
> *Industry*: Emission and waste monitoring, and pollution clean-up.
> *Engineering*: Environmental impact assessment and 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 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 of graduation.

Degree Requirements
104 Credits

	Number of Credits (cr.)
General Education Requirements	**27 cr.**

General Education Requirements   **27 cr.**

    Communications Skills   6 cr.
    ENL 221, ENL 239

    Computer Skills   3 cr.
    CSC 201

    Cultural Studies   9 cr.
    ARB 211 or ARB 231, and REG 212 or REG 213
    Choose one of the following set of courses:
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.

    Social Science Studies   3 cr.
    Choose one of the following set of courses:
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,
    ECN 200, ECN 211, ECN 212, MRK 201, BAD 201, HTM 201

    Basic Science Studies   6 cr.
    Choose two of the following set of courses:
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202,
    AST 201.

Core Requirements   **45 cr.**
BIO 211, BIO 212, CSC 318,
CHM 211, CHM 215, CHM 221, CHM 222, CHM 272,
ENS 203, ENS 321,
GEO 201, GEO 311,
PHS 202, STA 203.

Major Requirements   **26 cr.**
ENS 322, ENS 323, ENS 430, ENS 450, ENS 471, ENS 485 or ENS 490
Choose three Environmental Science courses, 3 credits each.

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and **(C)**. However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.

                                          Total: **104 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 or 231		GER	3 cr.
ENL	221	Sophomore English for Sciences (GER)	3 cr.

Spring Semester I (14 Credits)

GEO	201	Physical Geology	4 cr.
CHM	221	Organic Chemistry I	3 cr.
BIO	212	General Biology II	4 cr.
ENL	239	Technical English for Sciences (GER)	3 cr.

Summer Session I (6 Credits)

REG 212 or 213		GER	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.

Fall Semester II (14 Credits)

ENS	203	Ecology	3 cr.
ENS	321	Soil Pollution	3 cr.
CHM	222	Organic Chemistry II	3 cr.
CHM	272`	Organic Chemistry Laboratory	2 cr.
PHS	202	Physics for Life Science	3 cr.

Spring Semester II (16 Credits)

CSC	318	Geographical Information Systems	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)

ENS	322	Water Pollution	3 cr.
ENS	323	Air Pollution	3 cr.
ENS	430	Solid Waste Management	3 cr.
♠ENS	___		3 cr.
___	___	Free Elective	3 cr.

Spring Semester III (17 Credits)

ENS	450	Environmental Impact Assessments	3 cr.
♠ENS	___		3 cr.
♠ENS	___		3 cr.
___	___	Free Elective	3 cr.
ENS	471	Field and Laboratory Work	3 cr.
ENS 485 or 490		Seminar or Senior Project	2 cr.

♠ Choose three environmental science courses, 3 credits each.

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 203 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 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 312 Environmental Health (3.0); 3 cr. Pollution induced hazards/health risks: Radioactivity/Genetic mutations, cancers, poisoning and organs functions disruption. Microbial and viral diseases. Elements intake: solutions reducing health risks.

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 contest that integrates biology, land management protection, development, and

socioeconomic and political constraints. *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 planing: 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); 3cr. Rehabilitation concepts; mitigation procedures, design, and methodology; application to quarries, landfills, coastal erosion, landslides, floods.

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 and BIO 212.

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. *Prerequisites*: Specified when offered.

ENS 485 Seminar (2.0); 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 (2.0); 2 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 (3.0); 1-3 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.

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 disease. Physicians rely heavily upon laboratory test results before making decisions. Thus, students will be trained to develop the ability to interpret generated laboratory results in order to provide reliable data for disease diagnosis. MLT graduates obtain many employments in scientific, medical and pharmaceutical laboratories of hospitals and universities as: laboratory technician in a hospital, researchers, assistants to physicians.

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 his/her degree program, complete all required courses, accumulate a total of 90 credits in addition to 300 hours in clinical training: that is equivalent to 20 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
90 Credits

	Number of Credits (cr.)
General Education Requirements	**27 cr.**
Communications Skills	6 cr.
ENL 221, ENL 239	
Computer Skills	3 cr.
CSC 201	
Cultural Studies	9 cr.
ARB 211 or ARB 231, and REG 212 or REG 213	
Choose one of the following set of courses:	
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ♠ENC 200, ECN 211, ECN 212, MRK 201, BAD 201, HTM 201	
Basic Science Studies	6 cr.
Choose two of the following set of courses:	
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Core Requirements   **28 cr.**
BIO 211, BIO 215, BIO 227, CHM 211, CHM 215, CHM 221, CHM 222,
CHM 272, STA 203.

Major Requirements   **29 cr.**
BIO 222, MLT 311, MLT 313, MLT 315, MLT 317,
MLT 322, MLT 324, MLT 326, MLT 328, MLT 330,
MLT 340, MLT 401, MLT 402.

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

_____

                                                           Total: **90 cr.**

The above also requires 300 hours of clinical training. These are determined
by the following set of courses that amount to 20 cr.
Clinical Training
MLT 410, MLT 420, MLT 430, MLT 440, MLT 450, MLT 460, MLT470.   **20 cr.**

BS in Medical Laboratory Technology
Suggested Program (90 Credits + 300 Hours in Clinical Training)

Fall Semester I (16 Credits)

BIO	211	General Biology I	4 cr.
CHM	211	Principles of Chemistry	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
ENS	201	Introduction to Environmental Science (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	221	Organic Chemistry I	3 cr.
STA	203	Biostatistics	3 cr.
BIO	222	Immunology	3 cr.

Summer Session I (9 Credits)

ENL	239	Technical English for Science (GER)	3 cr.
CSC	201	Computer and Their Use (GER)	3 cr.
____	___	GER	3 cr.

Fall Semester II (15 Credits)

CHM	222	Organic Chemistry II	3 cr.
CHM	272	Organic Chemistry Laboratory	2 cr.
MLT	311	Clinical Chemistry I	2 cr.
MLT	313	Clinical Bacteriology I	3 cr.
MLT	315	Clinical Parasitology I	2 cr.
MLT	317	Clinical Pathology I	3 cr.

Spring Semester II (15 Credits)

BIO	227	Biochemistry	3 cr.
MLT	322	Clinical Chemistry II	2 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 (9 Credits)

____	___	Free Elective	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
____	___	GER	3 cr.

Fall Semester III (16 Credits)

MLT	340	Serology	2 cr.
MLT	401	Selected Topics in Laboratory Medicine I	1 cr.
REG 212 or 213		GER	3 cr.
____	___	Clinical Training I*	10 cr.

Spring Semester III (14 Credits)

MLT	402	Selected Topics in Laboratory Medicine II	1 cr.
ARB 211 or 231		GER	3 cr.
____	___	Clinical Training II*	10 cr.

*Training in MLT for a period of 9 months (October-June) to cover practical applications of theoretical knowledge in the following area:

Courses			Credits	Duration
MLT	410	Training in Clinical Chemistry	4 cr.	7 weeks
MLT	420	Training in Clinical Hematology	4 cr.	7 weeks
MLT	430	Training in Clinical Bacteriology	4 cr.	7 weeks
MLT	440	Training in Clinical Parasitology & Urinalysis	2 cr.	4 weeks
MLT	450	Training in Serology	2 cr.	4 weeks
MLT	460	Training in Blood Banking	2 cr.	4 weeks
MLT	470	Training in Phlebotomy, Cytogenetics & Histological Techniques	2 cr.	4 weeks

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 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 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 (2.1); 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. Practical training in clinical chemistry of 7 weeks duration.

MLT 420 Practical Training in Clinical Hematology 4 cr. Practical training in Hematology, Serology of 7 weeks duration.

MLT 430 Practical Training in Clinical Microbiology 4 cr. Practical training in clinical bacteriology of 7 weeks duration.

MLT 440 Practical Training in Clinical Parasitology 2 cr. Practical training in Parasitology and Urinalysis of 4 weeks duration.

MLT 450 Practical Training in Serology 2 cr. Practical training in Serology of 4 weeks duration.

MLT 460 Practical Training in Blood Banking 2 cr. Practical training in blood Banking of 4 weeks duration.

MLT 470 Practical Training in Phlebotomy, Cytogenetics & Histological Techniques 2 cr. Practical training in Phlebotomy, Cytogenetics & Histological Techniques of 4 weeks duration.

The Degree of Bachelor of Science in Physics

If discovering the inner fundamental unity of the natural world, form the whole universe to the insides of an atom is what you are looking for, physics is where you should look. It is the science that studies the basic laws of nature and how they conspire to produce the wealth of phenomena you observe in your everyday life. Physics is the foundation for all other natural sciences: chemistry, biology…

Training in physics provides a student with the necessary mathematical tools to understand and apply physical laws and a solid grounding in the experimental process. More importantly, it prepares a person to successfully tackle complex problems.

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 his/her 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.

Degree Requirements
94 Credits

	Number of Credits (cr.)
General Education Requirements	**27 cr.**

General Education Requirements   **27 cr.**

    Communications Skills   6 cr.
    ENL 221, ENL 239

    Computer Skills   3 cr.
    CSC 201

    Cultural Studies   9 cr.
    ARB 211 or ARB 231, and REG 212 or REG 213
    Choose one of the following set of courses:
(A) PHL 211, LTR 211, LTR 212, LTR 213, HUT 305, HUT 306.

    Social Science Studies   3 cr.
    Choose one of the following set of courses:
(B) HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,
    ♠ECN 200, ECN 211, ECN 212, MRK 201, BAD 201, HTM 201

    Basic Science Studies   6 cr.
    Choose two of the following set of courses:
(C) ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202,
    AST 201.

Core Requirements   **30 cr.**
MAT 213, MAT 215, MAT 224, MAT 235,
PHS 205, PHS 212, PHS 213, PHS 271, PHS 272,
AST 210, CSC 212 or CSC 214.

Major Requirements   **31 cr.**
PHS 346, PHS 350, PHS 303, PHS 375, PHS 415, PHS 417, PHS 435,
Choose any three of the following courses:
PHS 301, PHS 315, PHS 403, PHS 405
EEN 210,   EEN 211, MEN 320, MEN 321, MEN 550.

Free Electives   **6 cr.**
Choose two courses from the already non-chosen courses in sets **(A)**, **(B)**, and
(C). However for choosing courses from outside these sets, you must receive
the written approval of the Faculty Dean.

                                 Total: **94 cr.**

♠ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Physics
Suggested Program (94 Credits)

Fall Semester I (16 Credits)

CSC	201	Computers and Their Use (GER)	
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.
PHS	205	Thermodynamics and Waves	4 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
___	___	(GER)	3 cr.

Spring Semester I (16 Credits)

AST	210	Introduction to Astronomy & Astrophysics	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	224	Calculus IV	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
PHS	212	Electricity and Magnetism	3 cr.
PHS	271	Electricity and Magnetism Laboratory	1 cr.

Fall Semester II (16 Credits)

CSC	210	Fundamentals of Computing for Engineers	3 cr.
PHS	213	Modern Physics	3 cr.
PHS	272	Modern Physics Laboratory	1 cr.
PHS	346	Mathematical Methods for Physics I	3 cr.
ARB 211 or 231		GER	3 cr.
REG 212 0r 213		GER	3 cr.

Spring Semester II (15 Credits)

PHS	303	Analytical Mechanics	3 cr.
PHS	350	Mathematical Methods for Physics II	3 cr.
PHS	___		3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Fall Semester III (15 Credits)

PHS	375	Experimental Physics	3 cr.
PHS	415	Thermal and Statistical Physics	3 cr.
PHS	___		3 cr.
____	___	Free Elective	3 cr.
____	___	GER	3 cr.

Spring Semester III (16 Credits)

PHS	417	Electromagnetic Theory	4 cr.
PHS	435	Quantum Mechanics	3 cr.
PHS	___		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 201 Waves and Heats (2.0); 2 cr. Wave motion; sound wave; superposition and standing waves; temperature and ideal gases; heat and first and second laws of thermodynamics. Nature of light; interference of light waves; diffraction and polarization. *Prerequisite:* Sophomore Standing.

PHS 202 Physics For Life Sciences (3.0); 3 cr. Mechanics and fluids; electricity and magnetism; heat, light and sound; elementary waves; the atoms and the nucleus, with emphasis on applications relevant for Biological and Environmental Sciences.

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 coves 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 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 211 Principles of Physics (3.0); 3 cr. Topics are selected from the fields of mechanics, thermodynamics, acoustics, optics, electricity and magnetism, and modern physics. *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 experiment 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 301 Optics (2.2); 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 201.

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. *Corequisites*: PHS 350.

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); 3cr. 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. *Prerequisite*: MAT 215, MAT 224.

PHS 350 Mathematical Methods for Physics II (3.1); 3cr. Second of the series of two course 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 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. *Prerequisite:* PHS 213.

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. *Prerequisite:* PHS 213.

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:* EEN 210 & EEN 211.

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. *Prerequisite*: PHS 213.

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. *Prerequisite:* PHS 212, PHS 350.

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 346, PHS 350.

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.

AST 210 Introduction to Astronomy and Astrophysics (3.0) 3 cr. An introductory course in astronomy & astrophysics from a contemporary point of view: it covers the solar system, stars and stellar evolution (red giants, black holes, pulsars), galaxies, and elements of cosmology (big bang, evolution of the universe) using ground based and space based data and observation. The course will include observational projects and a group observing night to familiarize students with the night sky.

Undergraduate Courses: Chemistry

CHM 101 General Chemistry I (3.0), 3 cr. Introduces atomic theory and stoichiometry; gases, liquids and solutions; electro-chemistry;

periodicity of chemical properties. *Prerequisite:* Freshman Standing.

CHM 102 General Chemistry II (3.0); 3 cr. States of matter and phase equilibrium; acid-base chemistry; chemical kinetics; introduction to inorganic chemistry. *Prerequisite:* CHM 101.

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. Basic principles of chemical bonding and chemical reactions with introductory concepts to quantitative analysis. *Prerequisite:* Sophomore Standing.

CHM 215 Quantitative Analysis (3.2); 4 cr. The theory and practice of gravimetric, volumetric, chromatographic and colimetric analysis. *Prerequisite:* CHM 211.

CHM 221 Organic Chemistry I (3.0); 3 cr. Introduction to the chemistry of Hydrocarbons With emphasis on organic chemical contaminants. Chemistry of treatment processes. Advanced analytical methods for environmental contaminants. *Prerequisite:* CHM 211.

CHM 222 Organic Chemistry II (3.0); 3 cr. A study of substitution and elimination reactions and of the chemistry of arenes, alcohols, ethers, carboxylic acids, amines, diazonium salt, phenols, arylhalides, hydroxy acids, aminoacids and carbohydrates. *Prerequisite:* CHM 221.

CHM 223 Organic Preparations (0.3); 1 cr. A series of preparations chosen to acquaint the student with important methods and techniques used in modern organic chemistry. *Corequisite:* CHM 222.

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 (0.2); 1 cr. Selected experiments in organic chemistry.

Undergraduate Courses: Geology

GEO 201 Physical Geology (3.2); 4 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 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: 3cr. 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.

Undergraduate Courses: Nutrition

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 ENG 109 or it's equivalent.

NTR 212 Food Sanitation and Safety (3.0); 3 cr. Food microbiology and food hygiene; causes of food infected poisoning and food borne infection; prevention and safety. *Prerequisite:* NTR 201.

NOTES

FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION AND DIPLOMACY (FPSPAD)

Dr. Talal Tarabay, *Acting Dean*

FACULTY DEPARTMENTS
Dr. Akl Kayrouz, *Chairperson*

FACULTY DIRECTORY

Office of the Acting Dean
Pink Building, 3rd Floor, Room HA328
Tel: 09–218–950/51/52 Extension 2431
e-mail: ttarabay@ndu.edu.lb

Department of Internaltional Affairs and Diplomacy
Pink Building, 2nd Floor, Room HA242
Tel: 09–218–950/51/52 Extension 2412
e-mail: akayrouz@ndu.edu.lb

Department of Public Administration
Pink Building, 2nd Floor, Room HA242
Tel: 09–218–950/51/52 Extension 2412
e-mail: akayrouz@ndu.edu.lb

Department of Political Science
Pink Building, 2nd Floor, Room HA242
Tel: 09–218–950/51/52 Extension 2412
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FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION, AND DIPLOMACY

LIST OF FULL-TIME FACULTY MEMBERS

Professor
Keyrouz, Akl, Ph.D., 1969 *Political Science*, University of Utah, U.S.A

Associate Professors
Labaki, George, Doctorate, 1984, *Law* , Université de Paris-I, Pantheon, Sorbonne, France.
Tarabay, Talal, Doctorate, 1984, *Public International Law*, Université de Paris II, France.

Assistant Professors
Ghais, Chahine, Ph.D., 1998, *Political Science*, University of Missouri-St. Louis, USA
Hanna, Mitri, Ph.D., 1995, *Public Policy*, George Mason University, USA
Salem, Naim, Ph.D., 1992, *International Studies*, University of South Carolina, USA
[1]*Sayah, Edward*, Ph.D., 1988, *Public Administration & Economics*, University of North Texas, USA.

List of Staff Members
Nayla Bassil Basbous, B.A., 1990, Communication Arts, BUC-LCHE, Lebanon

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[1] As of February 1, 2001

FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION, AND DIPLOMACY

Acting Dean: *Dr. Talal Tarabay*
Administrative Assistant: *Mrs. Nayla Basbous*

Degrees Offered

The Faculty of Political Science, Public Administration and Diplomacy consists of three Departments:
The Department of Political Science,
The Department of Public Administration
The Department of International Affairs and Diplomacy

The Faculty of Political Science, Public Administration and Diplomacy offers programs leading to the degrees of:

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
Master of Arts in Political Science
Master of Arts in Comparative Law

Bachelor of Arts in Public Administration
Bachelor of Arts in Criminal Justice
Master of Arts in Public Administration

Bachelor of Arts in International Affairs and Diplomacy
Master of Arts in International Affairs and Diplomacy
Master of Arts in International Law

Master's Degrees

Program Guidelines
The M.A. degrees in 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 main objectives are to train students for government and public service as well as for employment in business and non-profit sectors which use graduates to lead their organizations and international operations.

Graduate Programs
The Faculty of Political Science, Public Administration and Diplomacy offers graduate programs in Political Science, Public Administration and Diplomacy.

While the programs are designed to serve both full-time and part-time students, particular emphasis is placed on meeting the needs of working adults who can only pursue their graduate studies on a part-time basis in the afternoon or evening. All graduate courses are offered from 4:30pm till 7:30pm, Monday through Friday. The graduate programs require three or four semesters of study depending on the full-time or part-time status of the student.

Objectives

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, and, among others, media enterprises.

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 or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. Students' undergraduate GPA of 2.90 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.

M.A. in Political Science:
IAF 211, POS 201, POS 210 or equivalent by petition.

M.A. in Public Administration :
PAD 201, POS 201, POS 321 or equivalent by petition.

M.A. in International Affairs and Diplomacy :
IAF 211, IAF 321, POS 201 or equivalent by petition.

DEPARTMENT OF INTERNATIONAL AFFAIRS AND DIPLOMACY

Chairperson: *Dr. Akl Keyrouz*

Professor
Keyrouz, Akl, Ph.D., 1969, University of Utah, USA
Political Science

Associate Professors
Labaki, George, Doctorate*, 1984, Université de Paris-I, Pantheon, Sorbonne, France
Law and Public Administration
Tarabay, Talal, Doctorate, 1984, Université de Paris II, France.
Public International Law

Assistant Professors
Ghais, Chahine, Ph.D., 1998, University of Missouri-St. Louis, USA
Political Science
Hanna, Mitri, Ph.D., 1995, George Mason University, USA
Public Policy
Salem, Naim, Ph. D., 1992, University of South Carolina, USA
International Studies
[1]***Sayah, Edward***, Ph.D., 1988, University of North Texas, USA.
Public Administration & Economics

The Department of International Affairs and Diplomacy offers two programs leading to the degrees of bachelor of Arts and Master of Arts in International Affairs and Diplomacy. It also offers a combination of courses which are necessary for a comprehensive university education.

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 international affairs and diplomacy. It also provides an excellent background to pursue graduate studies in international relations.

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. For some of these career opportunities, e.g., the diplomatic service, the Bachelor degree may suffice. However, the Master's degree provides its holder with the opportunity to acquire a better grounding in the field, and to engage in research.

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[1] As of February 1, 2001

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 International Affairs and Diplomacy 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 core and major requirements. These 105 credits are divided into:

Degree Requirements
(105 credits)

General Education Requirements   27 cr.
ARB 211 or ARB 231, CSC 201, ENL 222, ENL 235,
ECN 211 or 212, ENS 201 or NTR 201, HIT 211,
POS 201, REG 212 or REG 213.

Core Requirements   30 cr.
IAF 211, PAD 201, IAF 231, IAF 301, POS 210,
PAD 241, IAF 321, POS 345, IAF 401, IAF 442.

Major Requirements   30 cr.
BAD 315, POS 421, POS 350, POS 353, IAF 322,
IAF 402, IAF 407, IAF 409, IAF 471, IAF 490.

Major Electives: Choose 4 courses from   12 cr.
STA 201, COA 368, POS 212, POS 403, PAD 421, POS 382, POS 473, POS
479, IAF 453, POS 475, POS 477

Free Electives   6 cr.
                                                        Total: 105 cr.

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	222	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	235	Technical English	3 cr.
IAF	231	World Political Geography	3 cr.
ECN	___		3 cr.
STA	201	Statistics of Social Sc.	3 cr.

Summer Session I (6 Credits)

___	___	GER	3 cr.
IAF	212	Pol. Hist. Of the Near East	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.
			3 cr.

Fall Semester III (15 Credits)

BAD	315	International Business	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	490	Special Topics	3 cr.
IAF	471	Modern Europe	3 cr.
POS	421	Environmental Pol.	3 cr.
___	___	Major Elective	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, international law, propaganda and political warfare, economic strategy and development, foreign policy, and international organizations. *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. When relevant, an examination of the nature of these ideologies, in light of their ancient historical antecedents, is provided. *Prerequisite*: ENL 107

IAF 321 Diplomacy: Theory and Practice (3.0); 3 cr. An examination of the theory and practice of diplomatic negotiation in international relations. An analysis of the structures, functions, and procedures of diplomatic and consular services especially in regard to diplomatic privileges, immunities, and recruitment of diplomatic and consular personnel is provided. *Prerequisite*: IAF 211

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 in such areas as neutrality, maritime, law, laws of war citizenship, recognition of state.

IAF 402 Human Rights in International Politics (3.0); 3 cr. This course introduces the conceptual bases of the fundamental rights of the human being. It focuses on the guarantees provided 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 U N and other regional international organizations. *Prerequisite*: IAF 211

IAF 409 Foreign Policy Making of the Major Powers (3.0); 3 cr. An analysis of the making and objects of the foreign policy of the major powers in the context of globalization, the new world order, the European integration, and the gradual emergence of a number of regional powers. *Prerequisite*: IAF 211

IAF 453 Euro-Mediterranean Partnership (3.0); 3 cr. A study of the historical and present strategic role of the Middle East in European consideration of its sources, trading position, partnership and mutual security.

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 and IAF 312.

IAF 490 Senior Study (3.0); 3 cr. Special topics in International Affairs and Diplomacy.

The Degree of Masters of Arts in International Affairs & Diplomacy

The Degree of Master of Arts in International Affairs and Diplomacy

The program is designed to provide students with advanced training 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. The training is geared to give the student a good understanding of international affairs in both theory and practice.

The Department admits to its Master program students holding Bachelor degrees other than International Affairs and Diplomacy. These students will be asked to take a number of preparatory courses as the Faculty Curriculum Committee deem appropriate.

Admission Requirements

It is a two-year program consisting of two options:

1.   36 credits of course work culminating in a comprehensive written and oral examination; or
2.   successful completion of 30 credits course work and thesis of six credits.

Students seeking the degree of M.A. in International Affairs and Diplomacy must meet the following university requirements:

-       a B.A. degree in Public Administration, Law, Political Science, International Affairs and Diplomacy or related fields.
-       a minimum GPA of 3.0 on 4.0 scale.
-       proficiency in the English language – TOFEL 600, EET or EEE 600
-       students who come from non-related majors would be required to successfully complete 3 to 5 undergraduate prerequisite courses upon the recommendation of the Faculty.

Graduation Requirements

Students seeking the degree of M.A. in International Affairs and Diplomacy must meet the University graduation requirements and complete a total of 36 credits with an overall GPA of at least 3.0/ 4.0. <u>The student is required to demonstrate proficiency in two foreign languages besides his/ her mother tongue.</u>

Graduation Requirements

Students seeking the degree of M.A. in International Affairs and Diplomacy must meet the University graduation requirements and complete a total of 36 credits with an overall GPA of at least 3.0/ 4.0. The student is required to demonstrate proficiency in two foreign languages besides his/ her mother tongue.

Degree Requirements
(36 credits)

Major or Core Requirements **18 cr.**
IAF 601, IAF 602, IAF 604, IAF 605, IAF 615, IAF 621, POS 681

Major-related Electives **12 cr.**
Choose 4 courses from
IAF 623, IAF 631, IAF 632, IAF 633, IAF 635, IAF 641, IAF 645, IAF 651,
IAF 699, PAD 604, PAD 657, POS 609, POS 648, POS 655, POS 657, POS
659, POS 661

Option I: Thesis **6 cr.**
IAF 699

Option II : Successful completion of 36 credits of course work culminating in
a comprehensive written and oral exam.

Total: **36 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 in the relations among states, both at the international and regional levels; (2) The implications of the international power distribution on the domestic policies of states; and (3) The factors leading to international crises 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, e.g. GATT system, and multinational investment.

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 international affairs. Special emphasis is placed on the operations of the specialized agencies (IMF, World Bank, etc.) the determinants of their policies, and the impact of these policies 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, Arab Fund, etc.), the determinants of their policies, and the impact of these policies internationally.

IAF 615 Statesmanship and Diplomacy (3.0); 3 cr. Deals with the role of leaders and diplomats in influencing international affairs 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 emerging institutional patterns of the Western European Communities. Emphasis on major political military, and economic regional organizations and their relations with communist nations. Developing nations and the United States.

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 etiquette of diplomatic and political dealings.

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 635 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.

IAF 641 Public International Law (3.0); 3 cr. This course 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 order is provided, covering legal issues related to global resources regimes, war, and economic development.

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. It is a training undertaking in the detection and analysis of risk indicators and their probable consequences.

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 699 Thesis, Project or Comprehensive Exam 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 Masters of Arts in International Law

Program Guidelines:
The M. A. degree in International Law requires 36 semester credit hours. Courses are offered primarily in the late afternoon to allow students to pursue part-time employment.

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 Political Science and Law understand the basic different legal systems applied in international relations.

Admission Requirements:
Students seeking the degree of M. A. in International Law must meet the following university requirements:
-       A degree in Law or Political Science from an accredited university
-       Proficiency in the English language - TOEFL 600 - EET or EEE 600

Graduation Requirements
Successful completion of 36 semester credits with an overall GPA of at least 3.0/4.0. Courses are divided into:

Degree Requirements
(36 credits)

Major or Core Requirements   **18 cr.**
INL 622, INL 626, INL 638, INL 641, INL 646, INL 652.

Major-related Electives: choose 4 courses   **12 cr.**
IAF 605, INL 620, INL 624, INL 628, INL 630, INL 632, INL 634,
INL 636, INL 640, INL 642, INL 644, INL 648, INL 650

Option I: Thesis   **6 cr.**
INL 699

Option II : Comprehensive Exam in lieu of the thesis   **6 cr.**

Upon completing the bulk of the coursework, Candidates for the graduate degree in International Law , who do not desire to write a thesis must choose the option of taking two additional courses and passing a comprehensive written and oral examination.

                                                              Total: 36 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. Enrollment is limited.

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.

DEPARTMENT OF POLITICAL SCIENCE

Chairperson: *Dr. Akl Keyrouz*

Professor
Keyrouz, Akl, Ph.D., 1969, University of Utah, USA
Political Science

Associate Professors
Labaki, George, Doctorate*, 1984, Université de Paris-I, Pantheon, Sorbonne, France
Law and Public Administration
Tarabay, Talal, Doctorate, 1984, Université de Paris II, France.
Public International Law

Assistant Professors
Ghais, Chahine, Ph.D., 1998, University of Missouri-St. Louis, USA
Political Science
Hanna, Mitri, Ph.D., 1995, George Mason University, USA
Public Policy
Salem, Naim, Ph. D., 1992, University of South Carolina, USA
International Studies
[1]***Sayah, Edward***, Ph.D., 1988, University of North Texas, USA.
Public Administration & Economics

The Department of Political Science offers two programs: leading to the degrees of Bachelor of Arts and Master of Arts in Political Science.

The Degree of Bachelor of Arts in Political Science

In its institutional thrust as an academic center of higher education, it is in the vested interest--and the duty--of Notre Dame University, Louaizé to join the on-going dialogue on man as a sociopolitical constituent. More than ever before, the world's progress is influenced by politics, economics, ideological thought, power struggle national and global security. The guiding light is the organization of the multilayered, and often conflicting, concerns within the confines of politics and law.

The program is designed to provide students with adequate awareness of the discipline of Political Science. The major program will equip students with adequate 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.

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[1] As of February 1, 2001

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 Political Science must complete a total of 105 credits with an overall average of at least 2.0/4.0 and minimum average of 2.3/4.0 in core and major requirements. These 105 credits are divided into :

Degree Requirements
(105 credits)

General Education Requirements   **27 cr**

CSC 201, ENL 222, ENL 235, ECO 204, HIT 211, POS 201
ARB 212 or ARB 231, REG 212 or REG 213, ENS 201 or NTR 201.

Core Requirements   **30 cr.**

IAF 211, IAF 301, IAF 407, PAD 201, PAD 241, POS 210, POS 240, POS 350,
POS 353, POS 442.

Major Requirements   **30 cr.**

IAF 401, IAF 402, IAF 409, PAD 302, POS 317, POS 331, POS 345, POS 421,
POS 479, POS 490

Electives   **12 cr.**

Choose 4 courses from
IAF 321, IAF 453, IAF 471, PAD 421, POS 212, POS 321, POS 323, POS 335,
POS 382, POS 403, POS 473, POS 475, POS 477, POS 479.

Free Electives   **6 cr.**

                               Total: 105 cr.

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	222	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	235	Tech. English	3 cr.
HIT	211	Hist. of Leb. & M.E.	3 cr.
STA	201	Statistics of Social Sc.	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.
IAF	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 Sciences courses, students take courses which include: American History, American Constitutional Law, Government and Politics of the US, American Political Parties and Pressure group, and American Literature. 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.

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 Political Science – American Studies concentration must complete a total of 105 credits with an overall average of at least 2.0/4.0 and minimum average of 2.3/4.0 in core and major requirements. These 105 credits are divided into:

Degree Requirements
(105 credits)

General University Requirements   **27 cr**
CSC 201, ENL 222, ENL 235, ECN 211 or 212, HIT 211, POS 201, ARB 211 or ARB 231, REG 212 or REG 213, ENS 201 or NTR 201.

Core Requirements   **30 cr.**
AMS 316, AMS 481, IAF 211, IAF 301, IAF 321, IAF 407, PAD 201, POS 210, POS 240, POS 350.

Major Requirements   **30 cr.**
AMS 408, POS 479, IAF 401, IAF 402, PAD 302, POS 317, POS 331, POS 345, POS 421, POS 490.

Electives   **12 cr.**
Choose 4 courses from
AMS 305, AMS 483, IAF 453, IAF471, LIR 213, PAD 421, POS 212, POS 305, POS 321, POS 323, POS 335, POS 382, POS 403, POS 473, POS 475, POS 477.

Free Electives   **6 cr.**
                                                       Total: 105 cr.

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	222	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	235	Tech. English	3 cr.
HIT	211	Hist. of Leb. & M.E.	3 cr.
STA	201	Statistics of Social Sc.	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.
___	___	Major Elective	3 cr.
POS	490	Special Topics in Pol. Science	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 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. The major program will provide students with in-depth knowledge, as well as professional preparation in the areas of Public sector, foreign service, international and regional organizations, multi-national corporations, banking institutions, and media and other enterprises.

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 Political Science – Euro-Mediterranean Studies concentration must complete a total of 105 credits with an overall average of at least 2.0/4.0 and minimum average of 2.3/4.0 in core and major requirements. These 105 credits are divided into:

Degree Requirements
(105 credits)

General University Requirements   **27 cr**
CSC 201, ENL 222, ENL 235, STA 201, ECN 211 or 212, HIT 211, POS 201,
ARB 211 or ARB 231, REG 212 or REG 213, ENS 201 or NTR 201.

Core Requirements   **30 cr.**
EMS 303, EMS 391, IAF 211, IAF 301, IAF 407, PAD 201, POS 210, POS 240,
POS 350, POS 353.

Major Requirements   **30 cr.**
EMS 371, EMS 490, IAF 401, IAF 402, POS 331, POS 345, POS 421, IAF 453,
IAF 471, IAF 409.

Electives   **12 cr.**
Choose 4 courses from
EMS 483, IAF 321, PAD 421, POS 321, POS 335, POS 403, POS 477, POS 479.

Free Electives   **6 cr.**
                                                    Total: 105 cr.

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	222	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	235	Tech. English	3 cr.
HIT	211	Hist. of Leb. & M.E.	3 cr.
STA	201	Statistics of Social Sc.	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.
___	___	Major Elective	3 cr.
POS	490	Special Topics in European Studies	3 cr.

Undergraduate Courses: American Study 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. *Prerequisite: POS 210*

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 Thoughts (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. Particularly 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 Contemporay 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 independance. *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: 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, adminsitrative, and judiciary government is provided. *Prerequisite: HIT 211*

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. *Prerequisite*: ENL 107

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 p*rerequisite* to all law courses. *Prerequisite: ENL 107.*

POS 317 Political Parties, Public Opinion, Pressure Groups (3.0); 3 cr. Parties and pressure group. Analysis of pressure politics and political behavior. Impact of parties and pressure group are 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 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, citizens, about half of the course devoted to the study of judicial behavior in the courts. Political and personal influences on judicial behavior.

POS 335 Classical Political Thoughts 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 222

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 group 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. *Prerequisite*: POS 210

POS 473 Government and Politics of the 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 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. It is a two-year program consisting of two options: 36 credits of course work culminating in comprehensive written and oral examinations; or successful completion of 30 credits of course work plus a thesis of 6 credits.

Admission Requirements:
Students seeking the degree of M.A. in Political Science must meet the following university requirements:
- a B.A. degree in Political Science, Law, Public Administration or related fields
- a minimum GPA of 3.0 on a 4.0 scale.
- proficiency in the English language --- TOEFL 600, EET or EEE 600.
- Students who come from non-related majors would be required to successfully complete 3 to 5 undergraduate prerequisite courses upon the recommendation of the Faculty.

Graduation Requirements
Students seeking the degree of M.A. in Political Science must meet the University graduation requirements and complete a total of 36 credits with an overall GPA of at least 3.0/ 4.0.

Degree Requirements
(36 credits)

Major or Core Requirements   **18 cr.**
POS 625, POS 651, POS 657, POS 681, IAF 601, IAF 604

Major-related Electives   **12 cr.**
Choose 4 courses from
POS 611, POS 619, POS 661, POS 699, BAD 638, PAD 618, PAD 627, PAD 653, IAF 605, IAF 621, IAF 623, IAF 631, IAF 633, IAF 635

Option I: thesis   **6 cr.**
POS 699

Option II
Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

                                                                  Total: **36 cr.**

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 Government 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 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.

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 Community and evaluates its impact on member states, their economies, collective security, and international trade. A particular attention is given to the European Community'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, or Comprehensive Exam 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 Comparative Law

The M.A. degree in Comparative Law requires 36 semester credit hours. Courses are offered primarily in the late afternoon to allow students to pursue part-time employment.

Objectives

In the present world referred to a as the "Global Village", and in view of the international global system controlled to a great extent by non-governmental, multi-national corporation, where governments, people, businesses and other do interact on a daily basis through an enormity of contracts, regulations, laws and procedures, it has become required from all educational institutions to stress in their academic curricula the importance of Comparative Law. This specialty would help students of law understand the basic different legal systems applied in international relations.

Admission Requirements:

Students seeking the degree of M.A. in Comparative Law must meet the university graduation requirements:

- A degree in Law from an accredited university
- Proficiency in the English language - TOEFL 600 - EET or EEE 600

Graduation Requirements:

Successful completion of 36 credits with an overall GPA of at least 3.0/4.0. Courses are divided into:

Degree Requirements
(36 credits)

Major or Core Requirements   **18 cr.**
CPL 603, CPL 605, CPL 607, CPL 611, CPL 625, CPL 645.

Major-related Electives: choose 4 courses   **12 cr.**
CPL 615, CPL 627, CPL 629, CPL 633, CPL 635, CPL 637, CPL 639, CPL 661, CPL 681, CPL 689, CPL 699

Option I: thesis   **6 cr.**
CPL 699

Option II
Successful completion of 36 credits of course work. Culminating in a comprehensive written and oral exam.

                                                       Total: 36 cr.

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, cybernatories, 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 699 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.

DEPARTMENT OF PUBLIC ADMINISTRATION

Chairperson: *Dr. Akl Keyrouz*

Professor
Keyrouz, Akl, Ph.D., 1969, University of Utah, USA
Political Science

Associate Professors
Labaki, George, Doctorate, 1984, Université de Paris-I, Pantheon, Sorbonne, France
Law and Public Administration
Tarabay, Talal, Doctorate, 1984, Université de Paris II, France.
Public International Law

Assistant Professors
Ghais, Chahine, Ph.D., 1998, University of Missouri-St. Louis, USA
Political Science
Hanna, Mitri, Ph.D., 1995, George Mason University, USA
Public Policy
Salem, Naim, Ph. D., 1992, University of South Carolina, USA
International Studies
[1]*Sayah, Edward*, Ph.D., 1988, University of North Texas, USA.
Public Administration & Economics

The Department of Public Administration offers two programs leading to the degrees of Bachelor of Arts and Master of Arts in Public Administration.

The 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 their field of study, 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.

Admission Requirements
Compliance with the general rules and regulations applied by NDU in the general Catalogue.

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[1] As of February 1, 2001

Graduation Requirements

Students seeking the degree of Bachelor of Public Administration must complete a total of 105 credits with an overall average of at least 2.0/4.0 and minimum average of 2.3/4.0 in core and major requirements. These 105 credits are divided into:

Degree Requirements
(105 credits)

General Education Requirements   **27 cr.**
CSC 201, ENL 222, ENL 235, ARB 211 or ARB 231, ECN 211 or 212, HIT 211, ENS 201 or NTR 201, REG 212 or REG 213, POS 201.

Core Requirements   **30 cr.**
IAF 211, IAF 301, IAF 407, PAD 201, PAD 241, POS 210, POS 240, POS 345, POS 350, POS 442.

Major Requirements   **30 cr.**
PAD 302, PAD 312, PAD 322, PAD 332, PAD 421, PAD 422, PAD 462, PAD 490, POS 321, POS 353.

Major Electives: **12 cr.**
Choose 4 courses from
COA 252, BAD 317, BAD 329, IAF 401, PAD 322, PAD 435, PAD 461, POS 212, POS 451,

Free Electives   **6 cr.**
                                                            Total: 105 cr.

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	222	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	___		3 cr.
STA	201	Statistics of Social Sc.	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.
IAF	301	Modern Pol. Ideologies	3 cr.
POS	350	Comp. Governments & Pol.	3 cr.
ENL	235	Tech. English	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 PA courses.

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. *Prerequsite: ENL 107*

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. *Prerequisite: IAF 211.*

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 in Criminal Justice

Criminal Justice Program (CJS)
The program of Criminal Justice studies emphasizes 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, it is in the vested interest --- and the duty -- of Notre Dame University, Louaize 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 adequate 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 adequate knowledge and afford them a smooth and solid professional preparation the areas of social security and legal areas and services.

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 Criminal Justice 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 core and major requirements. These 105 credits are divided into:

Degree Requirements
(105 credits)

General University Requirements	**27 cr.**

CSC 201, ENL 222, ENL 235, STA 201, ECO 204, POS 201,
ARB 212 or 231, REG 212 or 213, ENS 201 or NTR 201.

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, CJS 455, SOL 312, PSL 201, IAF 402, POS 323.

Free Electives	**6 cr.**
Total:	**105 cr.**

Bachelor of Arts in Criminal Justice
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	222	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	235	Tech. English	3 cr.
CJS	222	Crime & Justice in Leb.	3 cr.
STA	201	Statistics of Social Sc.	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	Seminar 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: Statues (3.0); 3 cr. Study of Lebanese Statues relating Lebanon Criminal Code, law enforcement procedures relating to search, arrest, confessions, identification, and evidence, and of Lebanese Statues 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: 222*

CJS 431 Criminal Procedures (3.0); 3 cr. Development of the law of criminal procedures from arrest through post-trial proceedings. *Prerequisite: 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: 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: 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. It is a two-year program consisting of two options:

1- 36 credits of course work culminating in a comprehensive written and oral examination; or

2- successful completion of 30 credits of course work plus a thesis of six credits.

Admission Requirements

Students seeking the degree of M.A. in Public Administration must meet the following university requirements:

- a B.A. degree in Public Administration, Law, Political Science or related fields.
- a minimum GPA of 3.0 on 4.0 scale.
- proficiency in the English language – TOFEL 600, EET or EEE 600
- students who come from non-related majors would be required to successfully complete 3 to 5 undergraduate prerequisite courses upon the recommendation of the Faculty.

Graduation Requirements

Students seeking the degree of M.A. in Public Administration must meet the University graduation requirements and complete a total of 36 credits with an overall GPA of at least 3.0/ 4.0. Courses are divided into:

Degree Requirements
(36 credits)

Major or Core Requirements   **18 cr.**
PAD 602, PAD 612, PAD 618, PAD 632, PAD 654, POS 681.

Major-related Electives: **12 cr.**
Choose 4 courses from
PAD 620, PAD 622, PAD 627, PAD 629, PAD 642, PAD 652, PAD 653, PAD 699, BAD 627, BAD 638, IAF 615, IAF 625

Option I: Thesis   **6 cr.**
PAD 699

Option II:
Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

                                                       Total: 36 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, informalism, 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 657 Political Development and Social Change (3.0); 3 cr. It examines social change in 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 699 Thesis, Project, or Comprehensive Exam 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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