

CATALOG

2002-2003

NOTRE DAME
UNIVERSITY
LOUAIZE
LEBANON



**CATALOG
2002-2003**

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Notre Dame University

Catalog 2002 - 2003

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تشيد جامعة سيده اللويزة

للشاعر سعيد عقل

بدي الليل اختالي
يا عماراً من عال
لك من ماضٍ عطر
ضح شمساً في البال

٢ - مع كحيلاء الرمش
في خطى نجم نمشي
كون، طير معناً، نرمى
باقة عند العرش

١ - يا غداً النشاء انتما
بالعلمي علماً علماً
يده مدت لغري
لعبة البدع العظمي

٣ - أم، أنضجت الفكر
شتتنا نبتاً حراً
وغدا كل كل
أرزة صيغت ذراً

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THE PRESIDENT'S MESSAGE

As the third millenium settles in, Notre Dame University (NDU), with its three campuses¹, it continues with remarkable success to meet the needs not only of its own community, but also those of the rising generations in Lebanon and in the whole region. Competence, assiduity, and openness are our guiding principles in this endeavor. Administration and staff² are harmonizing their efforts in order to provide students with the highest academic standards in all the disciplines offered. While doing so, NDU is keen to instill in every one of its students a deep sense of human life for that matter – would become a futile effort.

We need a university culture that is genuinely humanistic, in the sense that culture must correspond to the human person in his inalienable rights.

We need to make of our university a cultural laboratory in which religion, philosophy, human sciences and natural sciences may engage in constructive dialogue seeking out the truth.

We need to emphasize that there is *no contradiction, but rather a logical connection, between freedom of tearch and recognition of truth*. We strongly believe that *a culture without truth does not safeguard freedom but puts it at risks.*²

We urgently need to raise our young generations in such a way that they never compromise on essential human values such as tolerance, justice, freedom and peace.

One of the greatest questions that faces us today is whether the love of Socratic wisdom is dead. *If it is, we must say what was said in respect to the death of God: all is allowed*, and all issues would be reduced to a power game. *If philosophy as Socrates understood it is not dead*, all our struggles in the fields of knowledge and research *must not lose sight of that greater issue of the struggle for wisdom by which any culture is to be judged.*³

We, faculty and administration, are determined to make of our university a place in which respect for the other, openness to knowledge, passion for truth, and interest in the future of Lebanon, in particular, may develop in a noteworthy way.

¹ The main campus is located in Zouk Mosbeh, Kesrouan; the North Lebanon Campus in Barsa, and the new Shouf campus in Deir El-Kamar.

² J.P. II, *Jubilee of University Professors*, Sept. 9, 2000

³ Glenn Olson, *Communio* # 19, pp. 252-253, summer 1992

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NDU – MAIN CAMPUS

Visiting Emeritus

Akl, Said, Poet, and Philosopher

Visiting Professors

Kesrouani, Rev. Elias, Ph. D., 1989, *Musicology*, Sorbone, Paris 4, France

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*Nehme, Michel*, Ph.D., 1983, *Political Science*, Rutgers University, New Jersey, U.S.A.

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, Iowa State University, USA

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.

Haddad, Simon, Doctorate, 1999, *Sciences Politiques*, IEP, Paris

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

¹*Oueijan, Naji*, Ph.D., 1985, *English Literature*, Baylor University, USA

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

Salem, Naim, Ph.D., 1992, *International Studies*, University of South Carolina, 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

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

¹ Tenure appointment

Bahous, Jocelyne, Doctorate 1^{ème} 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

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

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, Mississippi State University, USA

Georges, Semaan, Ph.D., 2001, Ecole de Technologie Supérieur, Montreal, Canada.

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

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, *Plant Biochemistry and Molecular Biology*, Pennsylvania State University, USA

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

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

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

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

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

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

Haroun, Michelyne, Doctorate, 2001, *Chemistry*, Université René Descartes – Paris V, France

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

Jaalouk, Doris, Ph.D., 1997, *Cell Biology*, University of Sherbrooke, Canada

Jabr, Rabih, Ph.D., 2000, University of London, U.K.

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

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

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

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

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

Khalaf-Kayrouz, Laeila, 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
Malek, Amal, Doctorate 1^{ère} Catégorie, 2000, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon
¹**Matar, Suhail**, C.A.P.E.S., 1969, *Arabic Language and Literature*, Université Libanaise, Lebanon
Naboulsi, Rami, Doctorate, 2001, *Mathematical Physics*, Provence University, France
Naimy, Viviane, Doctorate, 2001, *Economics*, University Paris XI, France
Nassar, Elias, Ph.D., 1997, Ohio State University, U.S.A.
Noun, Ghada, Doctorate, 1998, *Immunology*, University of Paris XI - Orsay, France
Rached, Ziad, Ph.D., 2002, *Mathematics*, Queen's University, Canada
Rifi, Omar, Doctorate, 2000, *Computer Science*, Université Paul Sabatier, France
Saber, Rashid, Ph.D., 1998, *Marketing and Management*, California Coast University, USA
Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon
Saliba, Holem, Ph.D., 1997, *Mathematics*, Moscow State University, Russia
Saliba, Robert, MUP, 1980, *Architecture*, Michigan University.
Samra, Sami, Doctorate 1^{ère} Catégorie, 1999, *Philosophie et Sciences Humaines*, Saint Esprit-Kaslik, Lebanon.
Sayah, Edward, Ph.D., 1988, *Public Administration & Economics*, University of North Texas, USA.
Sensenig-Dabbous, Eugene, Doktor Der Philosophie, 1985, *Political Science and German Literature*, Paris-Lodron-Universität, Salzburg, Austria
Torbey, Violet M., Ph.D., 1996, *Finance*, Pennsylvania State University, USA
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

Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology*, Université Libanaise, Lebanon
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
Chamoun, Imad, D.E.A., 1994, *Philosophie*, Université du Saint-Esprit Kaslik, Lebanon
El-Asmar, Jean Pierre, Laurea di Dottore, 1991, *Architecture*, Università Degli Studi Di Firenze, Italy
Frayha, Norma, M.B.A., 1982, *Accounting*, American University of Beirut, Lebanon
Gabriel, Nicolas, D.E.S.S.U., 2000, *Urbanism*, Université Libanaise, Lebanon
Hasham, Elham, D.E.A., 1997, *Business Management*, USEK
Hovivian, Hrair, M.S., 1984, *Finance and Economics*, Beirut University College, Lebanon
Kassis, Tanios, M.A., 1995, *Hospitality Management*, IMMI Cornell University/Essex, France

¹ Tenure appointment

Melki, Habib, M.A., 1985, *Architecture*, Ball State University, USA
Rizk, Nouhad, D.E.S.S., 1984, *Computer Science*, Université de Nancy I, France
Zakhour, Kamal, M.B.A., 1982, *Marketing*, University of Pittsburgh, USA
Zgheib, Youssef, M.B.A., 1985, *Hospitality Management*, American University of Beirut
Zaccour, Danielle, DES, 1991, *Plastic Arts*, Academie Libanaise Des Beaux Arts, Lebanon

Lecturers

Abou-Jaoude, Joseph, M.S., 1985, *Computer Science*, Kent State University, USA
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
Hajjar, Theresa, M.P.H., *Biostatistics*, 1994, American University of Beirut, Lebanon
Hawi, Nazir, M.S., 1991, *Business Management*, Lebanese American University, Lebanon
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
Wehbe, Boulos (Marwan), M.A., 1981, *Middle Eastern Studies*, American University of Beirut, Lebanon.

Instructors

Abboud-Assaf, Carole, M.B.A, 1995, *Tourism and Marketing*, Notre Dame University - Louaize, Lebanon
Akhras, Caroline, MBA, 1989, *Management*, American University of Beirut, Lebanon
Bassil, Janet, MBA, 1996, *International Affairs*, NDU
Beyrouthy, Ghassan, M.B.A, 1999, *Hospitality Management and Tourism*, Notre Dame University - Louaize, Lebanon
Daghfal, Graziella, Diploma, 1996, *Interior Design*, Notre Dame University, Lebanon
Matta, Nadim, M.A., 1999, *Typographic Studies*, London College of Printing, UK.
Menassa, Joyce, M.S., 1984, *Marketing*, Beirut University College, Lebanon
Mikhael, Diane, MA, 2000, *Design*, Middlesex University, UK.
Soueid, Amine, M.S. 2001, Notre Dame University, Lebanon
Van Loan, Amira, M.A. 1995, *TESL*, The American University, Washington D.C., USA

NDU-NORTH LEBANON CAMPUS (NLC)

Assistant Professors

Shahine, Ahmad, Ph.D., 1998, *Computer Science.*, La Rochelle University, France

Doumit, Jacqueline, Doctorat, 1996, *Biomedical Engineering*, Universite de Saint-Etienne, France

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

Nasser, Ramzi, Ed. D., 1993, *Mathematics Education*, Univrsity of Massachussets-Lowel, USA.

Senior Lecturer

Karam, Salim, MBA, 1983, University of Detroit, MI, USA

Lecturers

Gharzouzi, George, M.B.A., 1984, *Business Administration*, The University of Tulsa, Tulsa, USA.

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

Instructor

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

SHOUF CAMPUS

Associate Professors

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

Assistant Professor

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

Lecturers

²*Abou Khuzam, Mazen*, Ph. D., *Mathematics*, Cambridge University, U.K.

Jabbour, Khayra-Zad, M.S., 2001, *Computer Engineering*, North Carolina State University, Raleigh, NC, U.S.A.

Instructor

Maroun, Bachir, M.S., 2001, *Computer Science*, Notre Dame University, Lebanon

¹ Tenure appointment

² Assistant Professor, effective Feb. 1st, 2003

FRIENDS OF NDU EXECUTIVE COMMITTEE

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

ALUMNI ASSOCIATION EXECUTIVE COMMITTEE

Sfeir, Naji *President*
Doumit, Jihad, *Vice-President*
El-Hage, Fadia, *General Secretary*
Abdallah, Elie, *Treasurer*
Baroudi, Carol, *Chairperson, Club Committee*
Rechdan, Antoine *Chairperson, Finance and Scholarship Committee*
Nasr, Elie, *Chairperson, Disciplinary Committee*
Karam, Jihad, *Chairperson, Publication Committee*
Ghafari, Toufic, *Chairperson, Cultural Committee*

ACADEMIC CALENDAR 2002-2003

FALL SEMESTER 2002

Sep.23 - 25	M. - W.	8:00a.m.-1:30p.m.	Registration period
Sep. 30	M.	8:00a.m.	Classes begin
Oct. 1	T.	3:00p.m.	Opening ceremony for the academic year 2002-2003
Oct. 2	W.	8:00a.m.-4:00p.m.	Drop and Add (Classes are in session)
Oct. 4	F.	8:00a.m.-4:00p.m.	Late Registration (Classes are in session)
Oct. 7	M.	12:00p.m.-1:00p.m.	Orientation for new students
Nov. 1	F.		All Saints Day: holiday
Nov. 22	F.		Independence Day: holiday
Nov. 26	T.	4:00p.m.	Deadline for Spring and Summer 2002 Incomplete Grades
* Dec. 3 - 5	T.-Th.		Al-Fitr: holidays
Dec. 6 - 7	F. - S.		Entrance examinations for Spring Semester 2003
Dec. 23	M.	8:00p.m.	Christmas vacation begins
Jan.2	Th.	8:00a.m.	Christmas vacation ends - Classes resume
Jan. 2 - Feb. 7	Th. - T.	8:00a.m.-4:00p.m.	Applications for Work Study Grants
Jan. 6	M.		Epiphany and Armenian Christmas: holiday
Jan. 8	W.	4:00p.m.	Deadline for officially withdrawing from a course
Jan. 17	F.		Saint Anthony's Day: holiday
Jan. 27	M.		Monday classes do not meet; Friday classes meet
Jan. 29	W.		End of classes
Jan. 30	Th.		Reading day
Jan. 31-Feb. 8	F. - S.	7:45a.m. -9:00p.m.	Final Examinations Period

SPRING SEMESTER 2003

Feb. 9	S.		St. Maroun's Day: holiday
* Feb. 9 - 11	S - T		Al-Adha: holidays
Feb. 12 - 14	W. - F.	8:00a.m.-4:00p.m.	Registration period
Feb. 17	M.	8:00a.m.	Classes begin
Feb. 19	W.	8:00a.m.-4:00p.m.	Drop and Add (Classes are in session)
Feb. 21	F.	8:00a.m.-4:00p.m.	Late Registration (Classes are in session)
Feb. 24	M.	12:00p.m.-1:00p.m.	Orientation for new students
* March 3	M.		Moslem New Year: holiday
* March 12	W.		Ashoura: holiday
Apr. 15	T.	4:00p.m.	Deadline for Fall Semester 2002 Incomplete grades

Apr. 16	W.	8:00p.m.	Easter vacation begins
Apr. 29	T.	8:00a.m.	Classes resume
May 1	Th.		Labor's Day: holiday
May 2-Jun. 13	F. - T.	8:00a.m.-4:00p.m.	Applications for Work Study Grants
May 6	T.		Martyrs' Day: holiday
May 9	F.		Founder's Day - Attendance is obligatory
May 12	M.		Prophet's Birthday: holiday
May 25	Sun.		Resistance & Liberation Day: holiday
May 29	Th.	4:00p.m.	Deadline for officially withdrawing from a course
Jun. 13 - 14	F. - S.		Entrance examinations for Fall Semester 2003
Jun. 17	T.		Tuesday classes do not meet; Monday classes meet
Jun. 19	Th.		Thursday classes do not meet; Friday classes meet. End of classes.
Jun. 20	F.		Reading day
Jun. 21 - 30	Sat. - M.	7:45a.m.-9:00p.m.	Final Examinations Period

SUMMER SESSION 2003

Jul. 3 - 4	Th. - F.	7:30a.m.-1:30p.m.	Registration period
Jul. 7	M.	7:30a.m.	Classes begin
Jul. 8	T.	7:30a.m.-1:30p.m.	Drop and Add (Classes are in session)
Jul. 9	W.	7:30a.n.-1:30p.m.	Late Registration (Classes are in session)
Jul. 11	F.	7:00p.m.	Commencement: Conferring of degrees
Aug. 7	Th.	1:30p.m.	Deadline for officially withdrawing from a course
Aug. 8 - 9	F. - S.		Entrance examinations for Fall Semester 2003
Aug. 15	F.		St. Mary's Day: holiday
Aug. 18	M.	1:30p.m.	End of classes.
Aug. 19 - 20	T. - W.	7:45a.m.-9:00p.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. The campus lies on a piece of land of 50,000 square meters donated by the village of Barsa. The first building of the Barsa Campus, totaling 10,000 square-meters of floor space, was completed in June 1999.

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

STATEMENT OF PURPOSE

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

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

For the fulfillment of these goals, the University seeks

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

NDU PAST, PRESENT AND FUTURE

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

Since its foundation in 1695, the Order has been a pioneer in promoting free education. It established its first school in 1696. Its zeal in promoting education and improving the lives of the people it serves prompted it to host the Lebanese Synod of 1736, which set the constitution for 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. In October 2001 NLC will offer the MBA program, and the B.E. in Computer and Communication Engineering.

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

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

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

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

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

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

The first phase of the construction project, completed in the summer of 1997, totaling 23,300 square-meters of floor space, 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 Mediterranée, *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

ACADMIC ADVISORY SERVICES

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

THE LIBRARIES

The NDU Libraries consist of the Mariam and Youssef Library at the Zouk Mosbeh Campus, the NLC Library at the Barsa Campus and the Shouf Library at the Deir el Kamar Campus.

The Mariam and Youssef Library has the capacity to store a collection of nearly 250,000 items and individual and group study space for more than 300 simultaneous users. The NLC Library is currently located in temporary space in the classrooms building. The Shouf Library is newly opened with a core collection of references, circulating books and periodicals.

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.

NDU Libraries are open to all users, however only NDU faculty, students, staff and alumni are currently granted borrowing privileges. Other NDU Libraries users, guests and visitors are allowed to access and use library materials within the confines of the library only. NDU Libraries materials may be requested and borrowed from any campus library, regardless of where they are housed. Available items are normally sent between the libraries within 2 working days of the request.

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, Utah, USA, to digitally scan the manuscripts in order to preserve these materials and provide access to this unique collection to scholars around the world.

NDU 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.

FAAD STUDIOS

FAAD 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 up-dated Mac Computer Laboratory and the latest interior design software 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 Architecture, Design, 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.

THEATER

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

DOROTHY SALHAB KAZEMI -CERAMIC ATELIER-

This Ceramic Atelier is equipped with 2 kilns and several wheel tables. Students can enjoy manual work with clay (slab, coil building, throwing), and clay enamels powder glazing. The Ceramic Atelier has a terrace with view giving to the pine trees.

METAL & WOOD WORKSHOP

The metal & wood workshop has the necessary tools that will help architecture, interior design & visual art students in the creative process of their works.

RADIO/TELEVISION STUDIO

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

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 receives a scholarship from another institution exceeding 50% of tuition.

- he/she registers for less than 12 credits during each semester and less than 9 credits during the last semester at NDU.
- he/she does not 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 Grant¹: A sibling grant is given when two or more brothers and/or sisters are registered at NDU with proven financial need. As of Fall Semester 2002, sibling students wishing to obtain a reduction on their fees are asked to fill in a Financial Aid Application which is to be studied and approved by the Financial Aid Committee. The Financial Aid Application must be submitted along with required documents within the period given by the Financial Aid Office. 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 criteria, the other(s) may or may not benefit from the grant depending on the Financial Aid Committee's decision which will determine the percentage of reduction to be allocated.

¹ Sibling Grant might be subject to change during the Academic Year 2002-2003

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) will 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 is to integrate disabled students (physical, visual, auditory, 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 increases student awareness about their rights and obligations. Bearing in mind that the responsibilities of the Student Cabinet toward the Administration, Faculty and student body are imperative.

RESEARCH AND DEVELOPMENT

The Office of Research and Development

This office coordinates and supervises all activities related to research projects and development endeavors. It issues calls for research proposals for evaluation and follow-up. It edits, publishes and distributes the PALMA Research Journal (PRJ) and carries a plan for book publications covering old manuscripts and contemporary writings in the different disciplines related to the programs offered by the University. It has established the archives of research projects and seminar or conference presentations, locally and overseas, prepared by all NDU full-time faculty members.

The development responsibilities cover the coordination with the Alumni Association in Lebanon and abroad. It also keeps strong relationships with the NDU-USA Organization established in February 2001 with two Chapters: one in Detroit and another in Washington D.C.

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.

International Academic Affairs

The coordinator initiates contacts with different international institutions of higher education for possible academic affiliations, and for possible program, faculty, and student exchanges.

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.

ADMISSIONS OFFICE

Notre Dame University-Louaize (NDU) is a Lebanese non-profit Catholic institution of higher education that adopts the American credit system. NDU stresses on recruiting students with mental, physical and spiritual potential. NDU has earned an honorable reputation which has resulted in applicants that are seeking quality education. The heritage of the Maronite Order of The Holy Virgin Mary, founded in 1695, has been a pioneer in promoting freedom of thought and it highlights a belief in education as a means of protection. The religious affiliation of the University does not impose any sectarian obligations. Consequently, applicants are granted equal opportunity irrespective of color, religion, gender, creed, disability, or national origin. The six Faculties with their programs of study attract students from over forty countries worldwide and cater for the market demand of Lebanon and the region.

UNDERGRADUATE ADMISSION

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

The following documents must be submitted with each application form:

- A Secondary School Record and a Letter of Conduct from the School Principal.
- A Letter of Recommendation.
- A photocopy of the Identity Card or Passport or Family Status Record.
- Two recent passport-size photos.
- Certified copies of all official certificates or diplomas.
- Scores of exams taken outside NDU (TOEFL, SAT I and SAT II).
- Freshman Applicants must submit an attestation from the School that they have completed and passed their High School requirements.

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

The following table identifies the deadlines for submitting applications and exam dates. These dates will change according to the calendar year; however, they will always fall on a consecutive Friday and Saturday.

Semester	Application Deadline	Examination Dates
Spring Semester, 2003	Last day of November, 2002	December 6 & 7, 2002
Fall Semester, 2003 (Session 1)	Last day of May, 2003	June 13 & 14, 2003
Fall Semester, 2003 (Session 2)	Last day of July, 2003	August 8 & 9, 2003

FRESHMAN ADMISSION REQUIREMENTS

Only non-Lebanese applicants may apply to the Freshman Class and should hold a secondary school certificate recognized by the Lebanese Ministry of Education. Applicants to the Freshman Class are required to take both the SAT I & SAT II (minimum combined score of 2000 and a minimum 300 on each subject) prior to registration as required by the Lebanese Ministry of Education for the equivalence. 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 either the EET (NDU English Entrance Exam) or the TOEFL (Amideast). Moreover, applicants to the Freshman Class must obtain a written authorization from the Equivalence Committee of the Lebanese Ministry of Education. This permission will allow students to pursue their higher education on the basis of a foreign program (الفرشمن صف الى والانتساب الاجنبي المنهج حسب الدراسة بمتابعة للطالب يسمح).

SOPHOMORE AND FIRST YEAR ADMISSION REQUIREMENTS

Applicants must hold the Lebanese Baccalaureate Part II or its equivalent, as determined by the Lebanese Ministry of Education, to be eligible for the Sophomore or First Year Class. The nature of the Lebanese Baccalaureate Part II (General Sciences, Literature and Humanities, Social Sciences and Economics, Life Sciences) must correspond to the requirements of the desired program of study of the respective Faculties at NDU.

TRANSFER ADMISSION REQUIREMENTS

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

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

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

ADMISSION REQUIREMENTS FOR FOREIGN STUDENTS

Foreign applicants must complete an application form and submit it, with the appropriate documents, to the Admissions Office. The form can be downloaded from the home page

(www.ndu.edu.lb). Foreign students must fulfill requirements specified by the Admissions Office in accordance with the rules and regulations set by The Ministry of Education.

ENGLISH ENTRANCE EXAMS

Notre Dame University recognizes the following English Entrance Exams:

EET (English Entrance Test): Structured and administered by NDU. A minimum score of 500 is required; no placement test is required. Placement will be according to the following grade scale:

- 400-499.....Remedial English (Intensive ENL 002)
- 500-599.....Freshman English (ENL 105 or 109)
- 600-699.....Freshman English (ENL 107 or 110)
- 700-Sophomore English (ENL 221 or its equivalent)

TOEFL (Test of English as Foreign Language): Administered by Amideast; a minimum score of 550 (paper-based) or 213 (computer-based) is required. English courses will be appointed according to the following grade scale:

- 550-599.....NDU Placement Test to determine the Freshman English course
(ENL 105 or 109 / ENL 107 or 110)
- 600(250)- Sophomore English (ENL 221 or its equivalent)

Note: Any applicant with a letter of Acceptance and who doesn't utilize it for the semester specified on the said letter will be subject for reconsideration in light of vacancy and other possible requirements.

FACULTY REQUIREMENTS

Faculty of Architecture, Art and Design (FAAD)

Applicants must pass The Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by The Lebanese Ministry of Education. They are required to sit for an English Entrance Exam (EET or TOEFL) and a Mathematics Test.

Only those applicants (General Sciences or Life Sciences) who score an overall average of at least 14/20 on The Official Baccalaureate Exam are exempt from the Mathematics Test.

Faculty of Business Administration and Economics (FBAE)

Applicants must pass The Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by The Lebanese Ministry of Education. They are required to sit for an English Entrance Exam (EET or TOEFL) and a Mathematics Test.

Only those applicants (General Sciences or Life Sciences) who score an overall average of at least 14/20 on The Official Baccalaureate Exam are exempt from the Mathematics Test.

Faculty of Engineering (FE)

Applicants must pass The Lebanese Baccalaureate Part II (General Sciences or Life Sciences) or its equivalent as identified by The Lebanese Ministry of Education. They are required to sit for an English Entrance Exam (EET or TOEFL), Mathematics Test, Chemistry Test and Physics Test.

Only those applicants who score an overall average of at least 14/20 on The Official Baccalaureate Exam are exempt from the Mathematics, Chemistry and Physics Tests.

Faculty of Humanities (FH)

Applicants must pass The Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by The Lebanese Ministry of Education. They are required to sit for an English Entrance Exam (EET or TOEFL) and a Mathematics Test.

Applicants who score an overall average of at least 14/20 on The official Baccalaureate Exam are exempt from the Mathematics Test.

Applicants for the degree of Bachelor of Arts in Physical Education and Sports are required to take a Medical Test and a Fitness Test in addition to the English Entrance Exam and the Mathematics Test.

Applicants to the Department of Mass Communication, exclusive of Journalism, are required to sit for a Mathematics Entrance Exam.

Applicants for the degrees of Bachelor of Arts in Journalism; Bachelor of Arts in Radio/TV; Bachelor of Arts in Arabic Language and Literature are also required to sit for an additional placement test in Arabic. Moreover, Translation and Interpretership applicants are required to sit for placement tests in Arabic and French in addition to the English and Mathematics Tests.

Faculty of Natural and Applied Sciences (FNAS)

Applicants must pass the Lebanese Baccalaureate Part II (General Sciences, Life Sciences or Social Sciences & Economics) or its equivalent as identified by The Lebanese Ministry of Education. Applicants for Business Computing must pass The Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by The Lebanese Ministry of Education.

All applicants are required to sit for an English Entrance Exam (EET or TOEFL) and a Mathematics Test. Applicants for Science majors are required to sit for a Science Test in two of the following topics – Biology, Chemistry, Physics. Applicants with an overall average of at least 14/20 on The Official Baccalaureate Exam are exempt from the Scientific Entrance Exams.

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
Nutrition	No	Yes	Yes
Nutrition & Dietetics	No	Yes	Yes
Chemistry(BS in Chemistry)	Yes	Yes	No
Nursing (BS in Nursing)	No	Yes	Yes

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

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	Minimum Grade for each Course
Natural and Applied Sciences	CS – Business Computing	MAT 001, 100, 105; or MAT 100, 105; or MAT 105	C
Natural and Applied Sciences	Other majors	MAT 100, 111, 112; or MAT 111, 112; or MAT 112	C
Engineering	All majors	MAT 111, 112; or MAT 112	C
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	C
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	

NOTE: 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.

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

Applicants must pass The Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by The Lebanese Ministry of Education. They are required to sit for an English Entrance Exam (EET or TOEFL) and a Mathematics Test.

Applicants who score an overall average of at least 14/20 on The Official Baccalaureate Exam are exempt from the Mathematics Test.

Note: Applicants with the Baccalaureate Part II or its equivalent and have attended or completed the TS will be exempt from the Scientific Entrance Exams only.

GRADUATE ADMISSION

STATEMENT OF PURPOSE

The Graduate Studies of NDU aim to promote humanitarian, ethical and spiritual values, to enhance intellectual inquiry and to intensify the awareness of human integrity and solidarity. In addition, the Graduate Studies of NDU seek to develop the mental, physical and spiritual potential of its student body; to enhance loyalty and commitment based on freedom, justice and equality and to promote faith in God.

NDU also seeks to enhance these values through the liberal education it offers and the career preparation that caters to the real needs of Lebanon and the region.

CURRENT GRADUATE PROGRAMS

NDU offers a Master Degree in the following areas:

Faculty of Architecture, Art & Design (FAAD):

- Master of Arts (MA) in Architecture(Landscape Urbanism) ----- 36cr.
- MA in Design----- 36cr.

Faculty of Business Administration & Economics (FBAE):

- Master of Business Administration (MBA) ----- 30 cr.

Faculty of Humanities (FH):

- Master of Arts (MA) in English Language & Literature ----- 30cr.
- MA in Applied Linguistics and TEFL ----- 30cr.
- MA in Arabic Language & Literature ----- 30cr.
- ¹MA in Media Studies ----- 37cr.
 - Electronic Media
 - Journalism
 - Advertising
- MA in Translation & Interpretership ----- 36cr.

Faculty of Natural & Applied Sciences (FNAS):

- ¹Master of Science (MS) in Computer Science----- 30cr.
 - MS in Computer Science (CIS concentration)----- 30cr.
 - MS in Mathematics----- 33cr.

¹ (Applicants must hold a Bachelor Degree in the same major; minimum residency period is two years.)

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

- Master of Arts (MA) in Political Science ----- 36cr.
 - MA in International Law ----- 36cr.
 - MA in Public Administration ----- 36cr.
 - MA in International Affairs & Diplomacy ----- 36cr.
 - MA in Comparative Law ----- 36cr.

ADMISSION PROCEDURES

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

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

Semester	Application Deadline
Fall Semester	Last day of July
Spring Semester	Last day of November

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

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

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

Required Documents

Applicants whose undergraduate degree is from NDU must submit:

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

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

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

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

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

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

Other Requirements

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

TYPES OF ADMISSION

Regular Admission

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

Conditional Admission

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

Prospective Applicants

Candidates qualify for this category if they apply to a major other than the undergraduate degree from NDU or an equivalent degree from any other recognized institution of higher education with a cumulative GPA of at least 2.7/4.0. The respective Faculty shall study the file of prospective graduate students. They may recommend supplementary undergraduate

courses that the applicant must complete with a minimum cumulative GPA of 3.0/4.0 prior to consideration for admission to graduate study. Credits earned for undergraduate courses will not be counted toward the graduation requirements for the relative Masters degree.

Transfer Applicants

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

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

International Applicants

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

Nondegree Applicants

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

READMISSION

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

ACADEMIC RULES AND REGULATIONS (UNDERGRADUATE)

STUDENT CLASSES

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

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

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

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

FULL-TIME STUDENTS

Undergraduate degree students registering for at least 12 credits for the Fall or Spring semester are considered full-time students. Hence, all undergraduate students admitted on a full-time basis must register for at least 12 credits in each semester.

PART-TIME STUDENTS

Undergraduate degree students registering for less than 12 credits for the Fall or Spring semester are considered part-time students. A full-time student wishing to register as a part-timer must fill-in a part-time registration form (available at the Office of the Registrar), obtain the written approvals of his/her academic advisor, Department Chairperson and Faculty Dean, and return the form to the Office of the Registrar prior to registration. A part-time student shall not be qualified for any kind of financial aid.

SPECIAL STUDENTS OR NON-DEGREE STUDENTS

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

TRANSFER STUDENTS

The University does not accept transfer applications at the Freshman level, but accepts transfer applications at the Sophomore level, First-year level and/or higher.

Applicants who have completed at least 12 credits at the Sophomore level and/or First year level outside NDU with at least a cumulative GPA of 2.0/4.0 beyond their secondary school education, and have been accepted by NDU's Admissions Office to register for full-time load during the Fall or Spring semester are considered transfer students. These students may receive credits for all courses passed with a grade of *C* or better, and that are equivalent in quality and quantity to NDU courses. However, only courses completed at NDU will be computed in their GPAs. Transfer students to the Faculties of FNAS, FBAE, FH or FPSPAD are required to complete at least 30 credits at NDU with a cumulative GPA of 2.0/4.0, and must satisfy all other graduation requirements for the degree. However, transfer students to the Faculties of FAAD or FE are required to complete at least 45 credits at NDU with a cumulative GPA of 2.0/4.0 and must satisfy all other graduation requirements for the degree.

AUDITORS

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

HOURS OF CLASSES

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

ATTENDANCE POLICY

Student should attend all classes and laboratory sessions on time. A pattern of absences, whether authorized or not, and even below the maximum number (specified below), may alter one's grade substantially. The SAO alone authorizes absences. No absence absolves a student from the responsibility of acting upon the material presented during his/her

absence. The maximum number absences for classes that meet on MWF is six; the maximum number for classes that meet on TTH and in the summer is four, (or two hours per credit course). Any student whose absences exceed the maximum limits shall automatically fail the course unless the student withdraws.

EXAMINATIONS AND QUIZZES

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

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

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

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

FINAL EXAMINATION MAKE-UP

If a student misses a final examination for a legitimate reason, he/she should make arrangements for a make-up examination with the instructor of the course and the chairperson of the department. If permission is granted the student shall pay the University a make-up final examination fee of 200,000 L.L. Consequently, the final examination make-up shall be taken no later than the 8th week of the next academic semester if a grade of incomplete “*I*” is submitted to the registrar. In 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.

GRADED FINAL EXAMINATION PAPER

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

FINAL GRADES

After being approved by both the concerned Department Chairperson and Faculty Dean, the final grades of a course offered during a given semester or the summer session must be submitted to the Office of the Registrar within 72 hours from the schedule date of the final

examination of that course. Carbon copies of these grades must be left at both the concerned Department and Faculty. Immediately thereafter, the Office of the Registrar shall post a carbon copy of these grades and shall mail to all students their semester or summer session final grades.

RECORD BOOK OR BLUE BOOK

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

TRANSCRIPTS

Upon request to the Office of the Registrar, students can obtain within two working days an official transcript or an office-use transcript of the credit work done at NDU. Fees are 10,000 L.L. for each copy of an official transcript, and 5000 L.L. for each copy of an office-use transcript. However, neither an official transcript nor an office-use transcript can be issued for a student who still has a pending account with the University.

CHANGE OF GRADE

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

However, under justifiable circumstances, the student may petition the concerned Faculty Dean (*i.e. the Dean of the Faculty offering the course*) within 5 working days from the posting of the final grades of the course by the Office of the Registrar. Not petitioning for a change of final grade within the above mentioned 5 days disqualifies the student from any consideration of the case, except for a force majeure preventing the student from being at the University to proceed with the petition.

For changing a final grade, the concerned instructor shall fill in and sign the official form of the change of final grade, *which can be obtained from the Office of the Registrar*, and attach to it all supporting documents including the instructor's record book. If this change is approved by the concerned Department Chairperson, then it shall be forwarded to the concerned Faculty Dean for final action. Once approved by the Faculty Dean, the change of grade form shall be submitted to the Office of the Registrar for implementation.

CHANGE OF PROVISIONAL GRADE

The grades of *I* and *PR* are considered provisional grades. The change of the provisional grade of *I* must be made by the end of the 8th week of the following semester, otherwise the Office of the Registrar will automatically convert it to the grade of *F*. And, the change of the provisional grade of *PR* must be made by the end of the following semester, otherwise the Office of the Registrar will automatically convert it to the grade of *F*.

GRADES FOR REPEATED COURSES

Students must repeat courses for which they got a grade of *F*, *UW* or they do not get the required passing grade set by the concerned Department or Faculty if these courses are required¹ in the major. They must repeat these courses immediately the next time they are offered. Students may also repeat a course for which they got a grade below *C*. For a repeated course, only the last grade, whether higher or lower, shall be computed into the GPA. The other grades are kept on the student's transcript. A course may be repeated only twice (*i.e.*, *such a course may be taken a total of three times only*). A student failing to successfully complete a course for the third time will have to precisely comply with the instructions of the University Academic Standards Committee. The letter *R* will be placed on the student's transcript next to the course being repeated.

GRADES UPON CHANGE OF MAJOR

Upon approval of change of major or area of concentration,

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

¹ required course in a major simply means any course required in the degree for graduation.

SYSTEM OF GRADES

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

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

UW Unofficial Withdrawal

0.0

The grade *UW* is assigned by the instructor when a registered student has never attended a class or has ceased attending and has not submitted an official course withdrawal request to the Office of the Registrar. This grade is computed as an *F* grade in the grade-point average.

W Official Withdrawal

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

<i>PR</i>	Progress, Re-enroll	The grade <i>PR</i> is a provisional grade, and hence it is not computed in the student's grade-point-average. It is used to reflect progress on continuing research efforts for the senior study or the senior research or design project until it is completed. If this provisional grade is unresolved by the end of the following semester, the Office of the Registrar will automatically convert it to the grade of <i>F</i> , and it will be computed in the student's grade-point-average.
<i>U</i>	Audit	The grade <i>U</i> indicates that the individual was an auditor or listener in the course. This does not have any quality point value, and hence it is not computed in the student's grade-point-average. Neither the credits nor a written statement can be given for a class audited, and no instructor is authorized to admit anyone as an auditor to any of his/her classes unless the individual has registered as such.
<i>I</i>		The grade <i>I</i> is a provisional grade, and hence it is not computed in the student's grade-point average. It indicates that the student has for good and justified reasons not completed all course requirements, but there is a reasonable expectation that he/she will successfully complete it. If this provisional grade is unresolved by the end of the 8 th week of the following semester, the Office of the Registrar will automatically convert it to the grade of <i>F</i> , and will then be computed in the student's grade-point average. However, students, who are out of attendance in the semester following the one in which the course was taken, have one year to complete the work. Degree candidates should be aware that an <i>I</i> grade received during the last semester in any of the courses required for graduation will automatically result in the delay of graduation.

GRADE-POINT AVERAGE

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

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

The GPA of the five courses would then be

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

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

ACADEMIC STANDING

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

Good Academic Standing:

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

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

Academic Probation:

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

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

A student on academic probation shall be informed in writing by the Office of the Registrar. A copy of this notification shall also be sent to the student's academic advisor. Such a student must precisely adhere to the written instructions of his/her academic advisor concerning registration, selection of courses and any other academic matters. Copies of these instructions shall be sent to both the Department Chairperson and the Office of the Registrar. A student on academic probation may not receive a grade of *W*, shall not be eligible for any type of financial aid and shall not be eligible to be a candidate for or to hold an office in the student cabinet.

Academic Suspension:

An undergraduate student will be suspended from the University for one semester after three consecutive semesters on probation (*i.e.*, 3rd probation is suspension) whether he/she is registered or not. A student on academic suspension who has paid tuition and fees for the next semester shall receive a 100% refund. If possible, such a student may enroll, upon the written approval of his/her academic advisor, in some courses at other accredited institutions of higher education. The credits for the courses completed with a grade of *C* or better may be transferred, as appropriate, toward the requirements of his/her degree at NDU. The grades and GPA for these courses shall not be transferred.

Academic Dismissal:

An undergraduate student will be dismissed from the University if he/she failed to be on good academic standing in the semester immediately following his/her return from academic suspension. However, if his/her semester GPA is at least 1.5/4.0, 1.75/4.0 or 2.0/4.0, as applicable, but not sufficient for being on good academic standing, as far as the cumulative GPA is concerned, the student may then petition the Academic Standing Committee for possible continuation of enrollment for exactly one extra semester only. If granted this extra semester, and consequently then, at the end of this semester, the student still fails to be on good academic standing, he/she will be directly dismissed. It shall always be understood that the recommendation and decision of the Academic Standing Committee is binding for the student.

ACADEMIC RECOGNITION

There are 2 kinds of academic recognition:

Dean's List:

Students who have obtained a semester GPA of 3.20/4.00 or higher at the end of a given semester in which 12 undergraduate credits or more were completed are placed on the Dean's List for that semester, provided they are enrolled on a full-time basis with no incomplete grades. These students will be invited to attend the Dean's Luncheon held in their honor.

Graduation with Distinction:

An undergraduate student with high academic achievement will graduate with:

- Cum Laude (Distinction), if the cumulative GPA falls between 3.20/4.0 and 3.49/4.0.
- Magna Cum Laude (High Distinction), if the cumulative GPA falls between 3.50/4.0 and 3.79/4.0.

- Summa Cum Laude (Highest Distinction), if the cumulative GPA is 3.80/4.0 or above. Such distinctions shall appear on the student's transcript and degree. However, an undergraduate student who has been accepted as a transfer student will be eligible for these distinctions only if he/she has completed at least 60 credits at NDU.

ACADEMIC DISHONESTY

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

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

PENALTIES OF ACADEMIC DISHONESTY

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

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

REPORTING ACADEMIC DISHONESTY

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

CHANGE OF MAJOR WITHIN A FACULTY

This category refers to a change of major within a Faculty. To be eligible for such a change the student must meet the requirements for admission to the new major. A student seeking change must submit to the new department a change of major request form provided by the Office of the Registrar. The new department makes the decision on the student's admission and sends a copy to the Office of the Registrar for implementation.

CHANGE OF MAJOR FROM A FACULTY TO A FACULTY

A student changing a major from one Faculty to another within the university is considered as a new student by the Faculty to which the transfer takes place. Thus, the student must submit a change of major form provided by the office of the Registrar, signed by the Business Office and by his/her advisor and submit it to the Office of the Registrar, which in turn will send the form to the University Admission Committee.

CHANGE OF MAJOR BY UNIVERSITY ACTION

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

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

DEADLINE FOR SUBMISSION OF CHANGE OF MAJOR

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

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

GRADUATION REQUIREMENTS

Degree Requirements

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

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

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

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

Second Degree Requirements

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

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

TEACHING DIPLOMA REQUIREMENTS

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

TEACHING CERTIFICATE REQUIREMENTS

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

GRADUATION CHECK LIST

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

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

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

CONFERRING OF DEGREES

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

- Fall semester
- Spring semester
- Summer session

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

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

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

Potential Summer graduates may participate in the ceremony of the conferring of degrees, provided they are registered for the Summer session.

RESIDENCY REQUIREMENTS

Residency Requirements for Bachelor of Art, Bachelor of Science, Bachelor of Business Administration and Bachelor of Hotel Management.

There are 2 kinds of government regulations for the B.A., B.S., B.B.A., B.H.M. and the like:

1. **Minimum Residency:** A minimum of 8 semesters of residency is required, beginning with the Freshman Class, or 6 semesters, beginning with the Sophomore Class. Two Summer sessions will be considered as equivalent to one regular semester. This period of time must be spent at a recognized and accredited institution of higher education; however, at least 30 credits requirement must be completed at NDU with a cumulative GPA of 2.0/4.0, in addition to all other graduation requirements for the degree.
2. **Maximum Residency:** A maximum of 16 semesters of residency is allowed, beginning with the Freshman Class, and 12 semesters, beginning with the Sophomore Class.

Residency Requirements for Bachelor of Engineering

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

Residency Requirements for Bachelor of Architecture

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

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

PARTICIPATION IN COMMENCEMENT EXERCISES

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

The University reserves the right to make changes in the above Academic Rules and Regulations during the academic year 2001 – 2002.

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		
IDP	-	Interior Design
GDP	-	Graphic Design
FAC	-	Arts and Crafts
FAP	-	Visual and Fine Arts
FDP	-	
FTP	-	Fashion and Textile Design
FPA	-	Performing Arts
MAD	-	Arts and Design
PDP	-	Photography and Multimedia
Department of Architecture		
ARP	-	Architecture
MLU	-	Landscape and Urbanism
Department of Arts and Music		
MUA	-	Musimediology – Arabic
MUE	-	Music Educator
MUM	-	Musimediology
MUS	-	Musicology

Faculty of Business Administration and Economics		
Department of Accounting, Finance and Economic		
ACO	-	Accounting
BAF	-	Banking and Finance
ECN	-	Economics
Department of Management and Marketing		
BAD	-	Business Administration
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
LTN	-	Latin
PES	-	Physical Education and Sport
SPN	-	Spanish
TRA	-	Translation
Department of Mass Communication		
ADM	-	Advertising and Marketing
COA	-	Communication
JOU	-	Journalism
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 & Insurance
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 Science, Public Administration and Diplomacy		
Department of International Affairs and Diplomacy		
IAF	-	International Affairs and Diplomacy
INL	-	International Law
Department of Public Administration		
CJS	-	Criminal Law
PAD	-	Public Administration
Department of Political Science		
AMS	-	American 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 Literature, Religion, Philosophy, Cultural Sequence, Art, Music, etc. A religion course shall always part of any 9 credits of cultural studies.

Social Science Studies

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

Basic Science Studies

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

FRESHMAN PROGRAM

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 9 credits
Natural Sciences	minimum of 3 credits
Electives	minimum of 6 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 : ENL 109, MAT 111, Natural Science Courses (6 cr. of 100 level), Elective (3 cr. of 100 level)

Second Semester : ENL 110, MAT 112, PHL 101, Natural Science Courses (3 cr. of 100 level), Elective (3 cr. of 100 level).

FRESHMAN ARTS PROGRAM

First Semester : BIO 101, BIO 171, ENL 105, PHL 101, MAT 100.

Second Semester : MAT 105, FAP 101, ENL 107, HIT 101 or BAD 101, PSL 101.

DEGREES OFFERED

Faculty of Architecture, Art and Design

* +	Bachelor of Architecture	191 cr.
	BA - Graphic Design	102 cr.
	BA - Graphic Design – Illustration Concentration	102 cr.
	BA - Graphic Design – Moving Image Concentration	102 cr.
	BA - Graphic Design – Photography Concentration	102 cr.
	BA - Graphic Design – Typography Concentration	102 cr.
	BA - Graphic Design – Packaging Concentration	102 cr.
* +	BA - Interior Design	136 cr.
* +	BA – Photography & Multimedia	102 cr.
* +	BA – Fashion and Textile Design	102 cr.
	BA – Studio Arts	102 cr.
	BA – Performing Arts	102 cr.
*	BA – Arts & Crafts	102 cr.
	BA – Musicology	124 cr.
	BA – Music Education	124 cr.
	BA – Musimedialogy	124 cr.
	BA – Arabic Music	124 cr.
+	MA – Design	36 cr.
	Master of Architecture (Landscape Urbanism)	36 cr.

Faculty of Business Administration and Economics

* +	BBA – Management	106 cr.
* +	BBA –Accounting	106 cr.
* +	BBA – Finance	106 cr.
* +	BBA –Economics	106 cr.
* +	BBA -International Business Management	107 cr.
* +	BBA –Marketing	106 cr.
* +	Bachelor of Hotel Management and Tourism	104 cr.
* +	Master Business Administration options: Management	39 cr.
* +	Master Business Administration options: Finance	39 cr.

Faculty of Engineering

	BE in Civil Engineering	160 cr.
* +	BE in Computer and Communication Engineering	160 cr.
+	BE in Electrical Engineering	160 cr.
	BE in Mechanical Engineering	162 cr.

* Offered at North Lebanon Campus (NLC), Barsa

+ Offered at Shouf Campus

Faculty of Humanities

* +	BA in English	103 cr.
* +	BA in Translation and Interpretership	108 cr.
*	BA in Education (Early Childhood)	105 cr.
*	BA in Education (Learning Disabilities)	105 cr.
*	BA in Education (Education of the Gifted)	105 cr.
*	BA in Education (School Counseling)	105 cr.
*	BA in Education (Education of the Handicapped)	105 cr.
*	BA in Physical Education and Sport	105 cr.
*	+ Teaching Diploma	18 cr.
*	+ Teaching Certificate	18 cr.
*	BA in Communication Arts (Journalism)	104 cr.
* +	BA in Communication Arts (Radio/TV)	106 cr.
* +	BA in Advertising and Marketing	105 cr.
	BA in Arabic Language and Literature	103 cr.
*	BA in Clinical Psychology	106 cr.
*	BA in Educational Psychology	106 cr.
*	BA in Industrial Psychology	106 cr.
	MA in English Literature	36 cr.
+ +	MA in Applied Linguistics and TEFL	36 cr.
+ +	MA in Translation and Interpretership	36 cr.
	MA in Media Studies (Advertising)	39 cr.
	MA in Media Studies (Electronic Media)	39 cr.
	MA in Media Studies (Journalism)	39 cr.
	MA in Arabic Language and Literature	30 cr.

Faculty of Natural and Applied Sciences

* +	BS in Business Computing	90 cr.
* +	BS in Computer Science	104
*	BS in Computer Science (Computer Information Systems).	103 cr.
*	BS in Computer Science (Computer Graphics and Animation).	108 cr.
	BS in Geographical Information Science	92 cr.
*	BS in Actuarial Science and Insurance	112 cr.
*	BS in Applied Statistics	91 cr.
*	BS in Mathematics	103 cr.
* +	BS in Biology (General Biology)	102 cr.
*	BS in Biology (Environmental Biology)	102 cr.
* +	BS in Biology (Biotechnology)	102 cr.
* +	BS in Environmental Science	104 cr.
+ +	BS in Medical Laboratory Technology	103 cr.
*	BS in Physics	94 cr.
*	BS in Chemistry (Industrial)	98 cr.
*	BS in Chemistry (Environmental)	98 cr.
* +	BS in Nutrition	94 cr.
*	BS in Nutrition & Dietetics	114 cr.
	MS in Computer Science	30 cr.

* Offered at North Lebanon Campus (NLC), Barsa

+ Offered at Shouf Campus

* MS in Computer Science (Computer Information Systems)	30 cr.
* MS in Mathematics	33 cr.

Faculty of Political Science, Public Administration and Diplomacy

* + BA in Political Science	105 cr.
* + BA in Political Science (American Studies)	105 cr.
* BA in Political Science (Euro-Mediterranean Studies)	105 cr.
* + BA in Public Administration	105 cr.
+ BA in Criminal Justice	105 cr.
* + BA in International Affairs and Diplomacy	105 cr.
+ MA in Political Science	36 cr.
+ MA in Comparative Law	36 cr.
+ MA in Public Administration	36 cr.
+ MA in International Affairs and Diplomacy	36 cr.
+ MA in International Law	36 cr.

* Offered at North Lebanon Campus (NLC), Barsa

+ Offered at Shouf Campus

UNDERGRADUATE REGISTRATION

ACADEMIC ADVISING

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

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

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

REGISTRATION ELIGIBILITY

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

REGISTRATION

An undergraduate student must register on the date assigned to him/her by the Office of the Registrar by:

- a. Receiving their tuition statements from the Business Office.
- b. Paying the appropriate tuition and fees to the appropriate bank(s).
- c. Preparing his/her course schedule in accordance with the suggested program of study for their major.
- d. Filling out the appropriate registration forms.
- e. Having his/her course schedule approved by their academic advisors.

REGISTRATION BY ABSTENTIA

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

LATE REGISTRATION

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

CROSS-REGISTRATION

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

2. A non-NDU undergraduate student may be allowed to cross-register a course at NDU upon submission of a written authorization from his/her institution allowing him/her to register for this course at NDU in accordance with NDU undergraduate registration policy.

IMPROPER REGISTRATION

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

CHANGES IN REGISTRATION

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

Adding and/or Dropping Courses

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

- a. Filling an add/drop form.
- b. Having his/her course schedules approved by his/her academic advisors.
- c. Receive his/her modified tuition statements from the Business Office.
- d. Paying/being refunded the appropriate tuition and fees to the appropriate bank(s).

Withdrawal From Courses

- a. Students may officially withdraw registration from courses without academic penalty by the late registration day and in accordance with the University Refund Policy. No grades will be inscribed on their records.
- b. After the late registration period students may withdraw registration from courses without academic penalty at any time prior to the 12th week of the Fall or Spring semester or the 24th day of the Summer session, upon approval of the course instructor. A grade of “W” will be inscribed on their records.
- c. Withdrawal after the deadline will result in the immediate assignment of the grade “F” or “UW” on the dropped course. No withdrawal is allowed beyond this period unless the student petitions the Academic Standards Committee, upon the approval of his/her instructor, certifying urgent reasons including but not limited to: sudden illness or injury of the student, serious personal or family problems. Once the petition is approved by the Academic Standards Committee, the Registrar will then be instructed by the PVP for Academic Affairs to assign the grade “W” on the dropped course(s). No credit is given for any of the course(s) withdrawn.

Total Number of Withdrawals from a Course

Students are allowed to withdraw from a course twice only. A third withdrawal from the same course will result in an automatic “F” unless such a withdrawal is approved by the Academic Standards Committee, not later than the 13th week of the Fall or Spring semester or the 26th day of the Summer session.

Attendance after Withdrawing

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

Student Leave of Absence and Reinstatement

An undergraduate student who completes the semester in which he/she is currently enrolled but does not wish to register for the following semester must apply for leave of absence to his/her Faculty Dean upon the recommendations of both his/her Academic Advisor and Department Chairperson. Once the leave of absence is approved, it shall immediately be reported in writing to the Office of the Registrar. Leave of Absence forms can be obtained from the Office of the Registrar. Upon return, a student with leave of absence shall petition the Office of the Registrar for reinstatement. Those students on probation who have been approved for leave of absence will remain on probation upon reinstatement. A student whose application for leave of absence has been denied may petition the University Academic Standards Committee for final action.

Dropping a Course while on Probation

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

Registration in a Course with an 'I' Grade

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

STUDENT ACADEMIC LOAD

Full-Time and Part-Time Loads

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

Maximum Load for Registration per Semester

The maximum load for registration during the Fall or Spring semester by any undergraduate student is either 16 credits or the number of credits specified in his/her suggested program for that particular semester. However, a graduating student during his/her last semester of registration or a student who has the requirements listed below may register for a maximum of 19 credits per Fall or Spring semester.

- A cumulative GPA of 3.2/4.0 and above
- His/her advisor's approval
- Sophomore English requirements completed
- Sophomore Mathematics requirements completed, if any
- Residency Requirements for the designated degree is met

Maximum Load for Registration in the Summer Session

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

Maximum Load for Students on Probation

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

Maximum Load for Students with Incomplete(s)

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

Maximum Load for Students with Cross-Registration

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

TUITION AND FEES

Notre Dame University is a non-profit institution. Tuition and fees paid by students represent a small percentage of the full cost of a student's education. The deficit is covered by income from gifts, grants and donations from foundations, alumni and friends of the University. The fees cover applications, membership in National Social Security Fund (NSSF), activities, Yearbook and Student Association, and Insurance.

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.

COURSE LOAD

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

AUDITING

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

DISCLOSURE OF STUDENTS' RECORDS

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

TUITION AND FEES

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

Tuition

Tuition per Credit Hour	L.L.	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 (GRADUATE)

CROSS-REGISTRATION

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

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

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

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

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

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

AUDITING

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

TUTORIALS

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

COURSE / PROGRAM CHANGES

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

SUPERVISION

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

COURSES AND GRADES

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

Graduate Level Courses

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

Prerequisite Courses

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

PROBATION AND DISMISSAL

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

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

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

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

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

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

COMPREHENSIVE EXAMINATION

Where applicable, a student must pass a comprehensive examination after completion of most of the course requirements for the degree. The concerned department will schedule the examination. The purpose of the examination is to ascertain the student's knowledge of the field of specialization and related areas. A student who does not pass the comprehensive examination may repeat it only once after a time lapse of at least three months but only with the approval of the concerned graduate committee.

THESIS

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

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

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

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

Thesis Committee

The master's thesis committee should be composed of at least three members recommended by the department or program and approved by the faculty graduate committee. The proposal of the thesis topic and the selection of the advisor and the members of the thesis committee for candidates for the master's degree should have been approved by the faculty or school graduate committee at least four months before the student defends the thesis. It is advisable that the thesis committee includes one external member. This member may be

from an institution other than NDU. All committee members should hold professorial ranks. The thesis committee approves the thesis topic and research program and conducts the thesis defense examination.

Thesis Defense

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

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

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

Deposit of the Thesis in the Library

After passing the thesis defense examination, the student is required to deposit at the library two copies of the thesis. A library receipt of these copies must be delivered to the Office of the Registrar before the student is awarded the degree. The student should sign a release form indicating whether or not the library is authorized to supply copies of the thesis to other libraries or individuals. The non-authorization option is valid for a period of two years only, after which copies of the thesis will be supplied on request.

Deadlines

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

PROVISIONS FOR THE MASTER DEGREE

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

Course Requirements

Two types of Master degree programs are available:

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

Language Requirements

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

Residence Requirements

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

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

GRADING SYSTEM

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

Grade	Description	Quality Points/Credits	Interval
A ⁺	Outstanding	4.0	100-97
A	Excellent	4.0	96-93
A-	Skillful	3.7	92-89
B+	Very Good	3.3	88-85
B	Good	3.0	84-81
B-	Reasonably Good	2.7	80-77
C+	Satisfactory	2.3	76-73
C	Passing, but not satisfactory	2.0	72-70
F	Failure	0.0	69-0
UW	Unofficial Withdrawal	0.0	
W	Official Withdrawal		
I	Incomplete		
P	Passing		
R	Repeat		
PR	Progress, re-enroll		
UP	Unsatisfactory Progress		
U	Audit		
I	This grade is given by an instructor only when there is reasonable expectation that a student will successfully complete course requirements. If this grade is unresolved by the eighth week of the following semester, the office of the Registrar will automatically convert it to the grade of <i>F</i> . Degree candidates should be aware that an <i>I</i> grade received during the last semester in any of the courses required for graduation will result in the delay of graduation.		

- PR This grade is used to indicate progress on research for the Master's thesis or project up to time of completion, when the appropriate letter grade is entered on the transcript.
- UP This grade is used to reflect that unsatisfactory progress is being made in a Master's research project or thesis.
- W The grade *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 *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* will appear on the student's permanent record.

ATTENDANCE POLICY

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

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

Instructors are responsible for clearly informing the students in writing of the attendance requirement for each course and the consequences of poor attendance. For legitimate reasons a student is allowed to be absent for a maximum of 6 hours per three-credit course.

ACADEMIC ADVISOR

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

ACADEMIC HONESTY POLICY

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

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

ACADEMIC STANDARDS

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

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

A graduate student will also be suspended if he/she obtains two *F*s.

WITHDRAWAL POLICIES

Leave of Absence

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

Withdrawal from courses

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

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

APPLICATION FOR GRADUATION

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

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

PARTICIPATION IN COMMENCEMENT EXERCISES

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

SUMMER SESSION

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

FINANCIAL AID

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

Fellowships

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

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

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

Assistantships

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

**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*

DEPARTMENT OF ARTS & MUSIC

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

Visiting Professors

Kesrouani, Rev. Dr. Elias, Ph. D., 1989, *Musicology*, Sorbone Paris 4, France

Associate Professor

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

Assistant Professors

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

Saliba, Robert, MUP, 1980, *Architecture*, Michigan University, Ph.D. Candidate- Oxford, Brooks University

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

Senior Lecturers

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.

Gabriel, Nicolas, D.E.S., 1987, *Architecture*, Université Libanaise (I.N.B.A.), D.E.S.S.U., 2000, *Urbanism*, Université Libanaise

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.

Kortbawi, John, Diploma, 1977, *Graphic Design*, London College of Printing, London

Zaccour, Danielle, DES, 1991, *Plastic Arts*, Academie Libanaise Des Beaux Arts, Lebanon

Instructors

Daghfal, Graziella, Diploma, 1996, *Interior Design*, NDU, Lebanon

Matta,Nadim, M.A., 1999, *Typographic Studies*, London College of Printing, UK.

Mikhael, Diane, MA, 2000, *Design*, Middlesex University, 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

Graduate Degree

Master of Architecture in Landscape Urbanism (36 credits)

Undergraduate Degrees

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

Bachelor of Architecture (191 credits)

Graduate Degree

Master of Architecture in Landscape Urbanism (36 credits)

The Department of Design offers undergraduate program leading to the degrees of

- BA in Graphic Design (102 credits)
- BA in Interior Design (136 credits)
- BA in Photography (102 credits)
- BA in Fashion & Textile Design (102 credits)
- BA in Photography (102 credits)
- BA in Fashion & Textile Design (102 credits)

The Department of Arts offers undergraduate program leading to the degrees of:

- BA in Studi Arts (102 credits)
- BA in Performing Arts (102 credits)
- BA in Arts & Crafts (102 credits)
- BA in Music (102 credits)
- Graduate Degrees
- Master of Arts in Design

FOUNDATION STUDIES

Students in the Foundation Studies Program work on the various skills and methods used by artists and designers to convert ideas conceived in their mind into art and design objects. Students are encouraged to develop “heart, head and hand skills”.

The Foundation Studies enable students to discover their talent, strengths and interests. “Learning” in one course is supported and complementary to another course. This ensures that students advance quickly and confidently. At the end of the Foundation Studies students will be ready to join one of the NDU degree programs within Departments of the FAAD.

Fall Semester I (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art and Culture	2cr.

Spring Semester I (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Admission Requirements:

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. All courses with a grade of less than C- must be repeated (see separate Foundation Studies description). In addition all remedial courses, Math and/or English (if required) must be completed. Students who fail to meet the above requirements will not be allowed to proceed to the Degree within the Department.

General Education Requirements 18 cr.

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236	6 cr.
Cultural Studies: Religion+Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc...	6 cr.
Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc...	6 cr.

Core Requirements 28 cr.

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

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.

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

Saliba, Robert, MUP 1980, Michigan University, Ph.D. Candidate Oxford, Brookes University

Architecture

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

Amenagement

Senior Lecturer

El Asmar, Jean Pierre, Laurea di Dottore, 1991, Università' Degli Studi Di Firenze, Italy.

Architecture

Gabriel, Nicolas, D.E.S., 1987, D.E.S.S.U., 2000, Université Libanaise (I.N.B.A.)

Architecture and Urbanism

Lecturers

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

Urbanism

The Degree of Bachelor of Architecture

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.
The GER are distributed as follows:	
Sophomore English (ENL 221 & ENL 239)	6 cr.
Cultural Studies:	6 cr.
Basic Science:	6 cr.
 Core Requirements	 51 cr.
GEO 202; MAT 213; PHS 203, CSC 273; CSC 274; CSC 275, CEN 308; CEN 309; CEN 419; CEN 439	
 Foundation (First Year)	 23 cr.
FAP 211, GDP 212, ARP 213, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, All remedial courses, Math and/or English (if required) must be completed in the First year. Students who fail to meet the above requirements will not be allowed to proceed to the Degree within the Department.	
 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.	
 Major Requirements	 106 cr.
ARP 301, ARP 311, ARP 313, ARP 317, ARP 322, ARP 324, ARP 328, ARP 410, ARP 431, ARP 433, ARP 435, ARP 439, ARP 440, ARP 444, ARP 446, ARP 551, ARP 552, ARP 553, ARP 554, ARP 555, ARP 556, ARP 557, ARP 561, ARP 562, ARP 563, ARP 590, ARP 591, ARP 592.	
Choose two courses from the following Electives I:	
ARP 564, ARP 565, ARP 566, ARP 567, ARP 568, ARP 569	6 cr.
Choose two courses from the following Electives II	
ARP 581, ARP 582, ARP 583, ARP 584, ARP 585, ARP 586	4 cr.

**Bachelor of Architecture
Suggested Program (191 Credits)**

Foundation Studies (Year 1)

Fall Semester I (14 Credits)

FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
ARP	213	Basic Technical Skills	3 cr.
FAP	215	Art & Culture	2cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

FAP	221	Drawing II	3 cr.
GDP	222	Design Principles II	3 cr.
ARP	223	Descriptive Geometry	3 cr.
GDP	224	Introduction to Photography	3 cr.
PHS	203	General Physics III	3 cr.

Summer Session I (3 Credits)

—	—	GER (ENL 221 Soph. Eng. for Science)	3 cr.
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Year 2:

Fall Semester II (17 Credits)

ARP	311	Architectural Design I	5 cr.
ARP	313	History of Architecture I	3 cr.
CEN	308	Statics for Architects	3 cr.
ARP	317	Building Technology I	3 cr.
ARP	301	Technical Drawing II	3 cr.

Spring Semester II (17 Credits)

ARP	322	Architectural Design II	5 cr.
ARP	324	History of Architecture II	3 cr.
CEN	309	Mechanics of Materials for Architects	3 cr.
ARP	328	Building Technology II	3 cr.
CSC	273	Comp. Aided Arch. Design	3 cr.

Summer Session II (9 Credits)

—	—	GER (ENL 239 Tech. Eng. for Science)	3 cr.
CSC	274	Software Packages for Architects I	3 cr.
ARP	431	Acoustics	3 cr.

Year 3:

Fall Semester III (17 Credits)

ARP	433	Architectural Design III	6 cr.
ARP	435	History of Architecture III	3 cr.
CEN	419	Structure for Architects	3 cr.
ARP	439	Mechanical and Sanitary Systems	3 cr.
CSC	275	Software Packages for Architects II	2 cr.

Spring Semester III (17 Credits)

ARP	444	Architectural Design IV	6 cr.
ARP	446	History of Architecture IV	3 cr.
CEN	439	Concrete Design for Architects	3 cr.
GEO	202	Geology for Architects	2 cr.
—	—	GER (Basic Science)	3 cr.

Summer Semester III (9 Credits)

ARP	410	Architectural Model Making	3 cr
ARP	440	Lighting Design and Electrical Systems	3 cr.
—	—	GER (Cultural Studies)	3 cr.

Year 4**Fall Semester IV (18 Credits)**

ARP	555	Architectural Design V	6 cr.
ARP	557	Architectural Theories	3 cr.
ARP	551	Construction Detailing Studio I	3 cr.
ARP	561	Urbanism I	3 cr.
—	—	GER (Cultural Studies- REG 212/213 Rel. & Soc. Issues)	3 cr.

Spring Semester IV (18 Credits)

ARP	556	Architectural Design VI	6 cr.
ARP	—	Elective I	3 cr.
ARP	552	Construction Detailing Studio II	3 cr.
ARP	562	Urbanism II	3 cr.
—	—	GER (Basic Science)	3 cr.

Summer Session IV (8 Credits)

ARP	590	Senior Study	2 cr.
ARP	553	Specifications and Quantity Surveying	3 cr.
ARP	554	Surveying	3 cr.

Year 5:**Fall Semester V (15 Credits)**

ARP	591	Senior Project I	6 cr.
ARP	563	Building Rules & Regulations	3 cr.
ARP	—	Elective I	3 cr.
—	—	GER (Free Elective)	3 cr.

Spring Semester V (14 Credits)

ARP	592	Senior Project II	7 cr.
ARP	—	Elective II	2 cr.
ARP	—	Elective II	2 cr.
—	—	GER (Free Elective)	3 cr.

Undergraduate Courses: Architecture

ARP 213 Basic Technical Skills (2.2); 3 cr. Using different art tools, devices and materials. Preparing and presenting a portfolio.

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

ARP 301 Technical Drawing II (2.2.); 3 cr. A continuation of Technical Drawing I, with an emphasis on perspective as a powerful visualization tool for the Architect. The course covers the mechanical construction method same as One, Two and, Three vanishing points

perspective. It also introduces the study of shadows (different light directions) and Reflections in perspective. *Prerequisite:* ARP 223.

ARP 311 Architectural Design I (3.4); 5 cr. This course is the first in a sequential series of design courses. The main purpose of Architectural Design I, is to acquaint student with basic Architectural problems, where by he is to adapt the given context to an appropriate grid that will serve as major path for the final design. *Prerequisite:* IDP 222

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

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

ARP 322 Architectural Design II (3.4); 5 cr. A continuation of Architectural Design I. This course deals with the contextual peculiarities of an existing structure (a traditional house, an industrial and urban wasteland...etc.). Surveying it, analyzing its morphological components same as its context, and proposing new destinations. *Prerequisite:* ARP 311.

ARP 324 History of Architecture II (3.0); 3 cr. Continuation of History of Architecture I, the course covers the development of architecture from the 4th century BC to the 12th century AD. It covers the Architecture of Etruscans, Republican Rome and the Roman Empire; the Early Christian and the Byzantine Empire; the Early Mediaeval and Romanesque and the Architecture of Islam. *Prerequisite:* ARP 313.

ARP 328 Building Technology II (2.2); 3 cr. The course is finalized toward the learning and application of the technologies of building construction, aiming to assist students in the execution project. *Prerequisite:* ARP 317.

ARP 410 Architectural Model Making (2.2); 3 cr. The objective of this course is suggested for the students to understand deeply and experiment with how to construct architectural models of different scale and different kinds of materials. Students will plan and do research on

the use, detail, budget, and techniques before starting construction.

ARP 431 Acoustics (2.2); 3 cr. Analysis, design and detailing of acoustical factors influencing spaces and building design. *Prerequisite:* ARP 328.

ARP 433 Architectural Design III (3.6); 6 cr. A continuation of the precedent Architectural Design courses, with an emphasis on the implementation of building codes and regulations on complex architectural settings. The chosen projects are more of public and administrative nature. *Prerequisite:* ARP 322.

ARP 435 History of Architecture III (3.0); 3 cr. Continuation of History of Architecture II, from the 12th century to the mid-17th century. It covers the Gothic Architecture and The Renaissance Period. *Prerequisite:* ARP 324.

ARP 439 Mechanical and Sanitary Systems (2.2); 3 cr. The physiological and environmental aspects of heating, ventilation and air conditioning; comfort tables and charts. Estimating heating and cooling loads and the choice of appropriate systems. The choice and design of water distribution and plumbing systems. Problems encountered with such installations on site. *Prerequisite:* ARP 328.

ARP 440 Lighting Design 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:* ARP 328.

ARP 444 Architectural Design IV (3.6); 6 cr. Design IV is a new stage to cross for the student. After having accomplished in the previous Design courses the essential in an architectural project, this course will tackle the development of architectural projects from multiple stakes and cultural precedents; disengaging the why and the problematical aspect; developing a conceptualizing methodology to concretize the architectural expression; exploring of the complexity of the architectural creation; discovering new significance and meanings through the architectural form. *Prerequisite:* ARP 433.

ARP 446 History of Architecture IV (3.0); 3 cr. Continuation of History of Architecture III, to cover the architecture from the mid-17th century to the mid 19th century. It covers The Baroque and the Rococo architecture. *Prerequisite:* ARP 435.

ARP 551 Construction Detailing Studio I (2.2); 3 cr. This course is meant to acquaint the student with the elaboration of professional construction document of architectural projects, and the adaptation of standard construction details to various architectural contexts. *Prerequisite:* ARP 444.

ARP 552 Construction Detailing Studio II (2.2); 3 cr. A continuation of Construction Detailing Studio I, with an emphasis on detail problem solving. Students are expected to push forward their architectural designs to reach the final stage of construction documents. *Prerequisite:* ARP 551.

ARP 553 Specifications and Quantity Surveying (3.0); 3 cr. Specifications and tender documents writing. The sources and the methods of classification for subsequent use. Practice projects.

ARP 554 Surveying & Field Surveying (2.2); 3 cr. Surveying and instrumentation; Introduction to optical, photographic, mathematical, and geometrical principles relevant to photogrammetry and remote sensing; introduction to global positioning system. Field plane surveying; topographic mapping; location survey and route surveying.

ARP 555 Architectural Design V (3.6); 6 cr. Continuation of Design IV dealing with more complex aspect of the built environment and initiate students to the “scientific” research by admitting only obviousness (evidences) and theories in the different disciplines. *Prerequisite:* ARP 444

ARP 556 Architectural Design VI (3.6); 6 cr. Design VI is considered a pre/mini-diploma stage. All the accumulation of knowledge acquired in the architectural program and in the sequential series of Design courses must be taken into consideration. This course figure out the developing of the faculty of criticizing and

analyzing “objectively” an Environmental Design issue; Sensibilization to the contextual demanding of our society; Application of the different architectural paradigm and methodological conceptualization; The concretization into a well developed architectural expression. The Implementation of a realistic contextual site as well as basic determinant constraints (laws, environment, etc.). *Prerequisite:* ARP 555

ARP 557 Architectural Theories (3.0); 3 cr. Survey of architectural theories as stated by architects, historians, and architectural critics. The main objectives of this course are to have a global view on the different schools of thought in architecture and to heighten the student awareness of the various interpretations of the architectural paradigm bursting as well as to the evolution of theories in architecture; *Prerequisite:* ARP 446.

ARP 561 Urbanism I (3.0); 3 cr. A survey of urban morphology in terms of characteristic phases of development with emphasis on environmental, cultural and economic factors governing urban growth. *Prerequisite:* ARP 444

ARP 562 Urbanism II (2.2); 3 cr. A survey of different basic approaches to urban and city planning present and past. A comprehensive and critical survey of urban planning in Lebanon. *Prerequisite:* ARP 561.

ARP 563 Building Rules & Regulations (3.0); 3 cr. Professional code of ethics for the practice of the profession. The moral and legal responsibilities of the architect towards the executed project and concerned parties. A survey of construction building codes and a study of the Lebanese construction laws (taught in Arabic).

ARP 564 Restoration of Monuments (2.2); 3 cr. The purpose of this course is to prepare the students for restoration projects, having professional characteristics, on a building which will be freely chosen by themselves. *Prerequisites:* ARP 301, ARP 446.

ARP 565 Landscape Architecture (2.2); 3 cr. Theory and principles of design and problem solving processes as applied to fundamentals of

design form in the landscape. *Prerequisites:* ARP 301, ARP 446.

ARP 566 Basic Industrial Design (2.2); 3 cr. Introduction to the theories, methods and practices of industrial design with primary emphasis on basic visual language and visual encoding practices. *Prerequisites:* ARP 301, ARP 446.

ARP 567 Archaeology (2.2); 3 cr. Studying the cultural heritage and rediscovering human experience from its origin to the present. It focuses on the archaeology of Lebanon: its history, artifact recording or ethnographic data, composition and description. *Prerequisites:* ARP 301, ARP 446.

ARP 568 Social Architecture (3.0); 3 cr. The course objectives are to initiate students to the research in sociology; to give a comprehensive overview of the contribution of the behavioral sciences to architectural theory; to present generalizations on what the built environment affords people and a set of concepts for understanding the relationship between architecture and human behavior. *Prerequisites:* ARP 301, ARP 446.

ARP 569 Project Planning and Management (3.0); 3 cr. This course focuses on providing an overall understanding of the project development. The course tackles: Theoretical frameworks and tools; quantitative methods and process used in analyzing project investment decisions; case studies. Project scope definition, phasing, scheduling, and control method. *Prerequisites:* ARP 301, ARP 446.

ARP 581 Seminar I (2.0); 2 cr. Lectures and conferences held by visiting instructors. *Prerequisites:* ARP 301, ARP 446.

ARP 582 Seminar II (2.0); 2 cr. Lectures and conferences held by visiting instructors. *Prerequisites:* ARP 301, ARP 446.

ARP 583 Design Theory (2.0); 2 cr. Some recent examples include Virtual and Dynamic Environments. The Architecture of professional architects Housing and Modernity, 20th Century Design. *Prerequisites:* ARP 301, ARP 446.

ARP 584 Topics in Oriental Architecture (2.0); 2 cr. Analysis of theoretical, culture and historical determinants as they may be applied to a select array of architects and buildings from oriental work. *Prerequisites:* ARP 301, ARP 446.

ARP 585 Topics in Japanese Architecture (2.0); 2 cr. Analysis of theoretical, culture and historical determinants as they may be applied to a select array of architects and buildings from Japanese work. *Prerequisites:* ARP 301, ARP 446.

ARP 586 Topics in Lebanese Architecture (2.0); 2 cr. Analysis of theoretical, culture and historical determinants as they may be applied to a select array of architects and buildings from Lebanese work. *Prerequisites:* ARP 301, ARP 446.

ARP 590 Senior Study (2.0); 2 cr. An introduction to the senior design courses that allows students to choose and justify their final senior project. *Prerequisite:* ARP 556

ARP 591 Senior Project I (4.4); 6 cr. The course involving a research that includes a theoretical and philosophical thought defining the problematical or situational aspect of the theme and the Aim; specifying the hypothesis/Concepts and justifying the *Raison d'être* of the project. In respect to the theoretical thought, the conceptualization and "operationalization" of the hypothesis into Concepts, Dimensions and Indicators, leads to the embryonic aspect of the proposed project. *Prerequisite:* ARP 590.

ARP 592 Senior Project II (3.8); 7 cr. This Final senior course proposes a complete and comprehensive development of the project in which the relevance to the thesis presented in Senior project-I should be demonstrated graphically. A complete set of drawings models, photographs, and recordings must be finalized by the student under the supervision of an adviser and collaborators. *Prerequisite:* ARP 591..

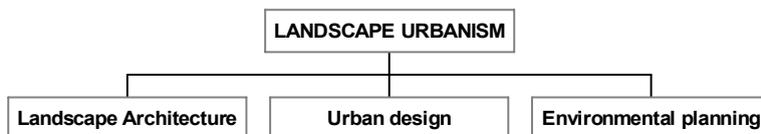
The Degree of Master of Architecture in Landscape Urbanism

Boundaries between environmental design disciplines are getting blurred. Increasingly, landscape architecture is being explored from different perspectives pertaining to art, architecture, urbanism, ecology, and technology. As such, it is perceived as an architectural incorporation of nature, an investigation in regional ecologies, an experimental field for installation artists, or as a means for reinforcing regional and urban identities. Hence, landscape architecture is losing its narrow definition as a professional field concerned with designing gardens and urban open spaces. It is widening its scope to embrace contemporary environmental problems and philosophical debates about the evolving attitudes towards nature, design, cities and their interface.

In response to this inclusive attitude toward the environment, this program opens a new perspective for graduate studies bridging the gap between art, architecture, landscape architecture and urbanism. It provides new graduate students as well as experienced professionals the opportunity to explore and to learn to manage emerging and pressing issues related to environmental conservation and sustainable development. As such the program aims at educating professionals and researchers who are able to respond to the need of ministries, international agencies as well as private developers and consulting offices in devising a culturally-appropriate approach to environmental planning and in formulating landscape and urban design strategies at urban, metropolitan and regional scales. It also encourages aesthetic exploration by individual artists, architects and landscape designers who prefer to follow their own itinerary in professional or research work.

Structure

The course is organized around three areas of concentration: Landscape Architecture, Urban Design, and Environmental Planning. Specific requirements depend on the interest of the student and the recommendations of the advisor of the department:



During the first semester, the student is exposed to the breadth of the program through a series of intensive introductory lecture-workshop courses covering the wide range of theories, methods and issues underlying the three areas of concentration. Starting from the second semester, the student will start focusing on a specialization area that will guide his selection of elective courses as well as his disciplinary focus within the required studio and core courses. The program provides the added flexibility of opting for a design-oriented course of study leading to a professional project thesis or for a research-oriented course of study leading to a written thesis with high analysis content.

Admission Requirements

In addition to the university admission requirements for graduate students, the candidate must submit a portfolio of work for assessment and schedule an interview with MLU course faculty.

In addition, applicants for the graduate program may be granted a maximum of nine transfer credits of graduate studies taken at another accredited institution of higher education provided that the transfer course(s) correspond to the NDU course requirements. In order to be accepted into the program, the students must take a minimum of 6 credits per semester as a part-time candidate and 9 credits as a full-time candidate.

Students applying with a bachelor degree outside of architecture should fulfill the undergraduate requirements of the university admission policy. Students with a degree from FAAD other than architecture will have to consult with MLU course faculty.

Graduation Requirements

Students seeking the degree of Master of Landscape Urbanism must meet the university graduation requirements and complete 36 credits with a cumulative average of at least 3.0/4.0.

Degree Requirements (36 credits)

Core Courses **30 cr.**

MLU 615, MLU 616, MLU 617, MLU 623/MLU 624, MLU 625/MLU 626,
MLU635, MLU636, MLU645

Major Electives **6 cr**

Master of Landscape Urbanism Suggested Program (36 Credits)

Year I

Fall Semester (9 Credits)

MLU	615	Ecological Foundations of Landscape Urbanism	3cr.
MLU	616	Aesthetic Foundations of Landscape Urbanism	3cr.
MLU	617	Landscape Informatics	3cr.

Spring Semester (9 Credits)

MLU	623	Cultural foundations of Landscape Urbanism	3cr.
		or	
MLU	624	The coastal environment	3cr.
MLU	625	Generative landscapes	3cr.
		or	
MLU	626	Policy and implementation in landscape urbanism	3cr.
—	—	Major Elective	3cr.

Year II

Fall Semester (9 Credits)

MLU	635	Workshop in Landscape Urbanism	6 cr.
MLU	636	Thesis Seminar	3 cr.

Spring Semester (9 Credits)

MLU	645	Thesis	6 cr.
—	—	Major elective	3 cr.

Graduate Courses: Landscape Urbanism

MLU 615 Ecological foundations of Landscape Urbanism; 3 cr. Combined lecture-workshop on the principles and practice of ecological design and planning with emphasis on the local and regional context.

MLU 616 Aesthetic foundations of Landscape Urbanism; 3 cr. Combined lecture-workshop course on the perceptual and spatial structures of landscapes as analytical and design tools.

MLU 617 Landscape informatics; 3 cr. The use of digital tools for terrain mapping and analysis, as well as landscape modeling and visualization.

MLU 623 Cultural foundations of Landscape Urbanism; 3 cr. Combined lecture-workshop course on the cultural identity of urban and metropolitan landscapes addressing their formative process and their underlying ideological, socio-economical and spatial dialectics. *Prerequisite:* MLU615, MLU 616

MLU 624 The coastal environment; 3 cr. The impact of urbanization on the coastal zone in the Mediterranean, regional and local contexts and the dialectics of development and conservation.

MLU 625 Generative landscapes; 3 cr. Exploration of landscape typologies, natural and man-made, that epitomize the various social and political orders through history.

MLU 626 Policy and implementation in landscape urbanism; 3 cr. The legislative foundations of environmental design and planning with identification of public and private sector stakeholders and the alternative approaches for policy implementation.

MLU 627 Open space art: from statues to installations; 3 cr. The historical and contemporary approaches to natural landscapes and public open spaces by artists and environmental designers, and the emerging trends on the international and local levels.

MLU 628 Emerging International Issues in Landscape Urbanism ; 3 cr. A seminar in which international topics of current relevance to practice and critical thinking in environmental planning, urban design and landscape architecture will be explored. The course content will change each semester to maintain currency within the professions.

MLU 629 Emerging regional and national Issues in Landscape Urbanism ; 3 cr. A seminar in which local and regional topics of current relevance to practice and critical thinking in environmental planning, urban design and landscape architecture will be explored. The course content will change each semester to maintain currency within the professions.

MLU 635 Workshop in Landscape Urbanism; 6 cr. Key development and conservation issues explored through the perspectives of environmental planning, urban design and landscape architecture. *Prerequisite:* MLU615, MLU 616, MLU 617.

MLU 636 Thesis Seminar; 3 cr. Preparation for final project/research thesis including an initial stage of data gathering and analysis leading to research proposal. *Prerequisite:* MLU635.

MLU 645 Thesis; 6 cr. Supervised dissertation work in the form of a professional project or written thesis.

New Courses			Old Courses		
FAP 211	Drawing I	3 cr.	RCT 100	Artistic Drawing I	4 cr.
GDP 212	Design Principles I	3 cr.	RCT 110	Basic Graphical Design I	4 cr.
ARP 213	Basic Technical Skills	3 cr.	RCT 101	Architectural Communication	3 cr.
FAP 221	Drawing II	3 cr.	RCT 103	Artistic Drawing II	3 cr.
GDP 222	Design Principles II	3 cr.	RCT 211	Basic Graphical Design II	4 cr.
ARP 223	Descriptive Geometry	3 cr.	RCT 102	Technical Drawing I	3 cr.
GDP 224	Introduction to Photography	3 cr.	PHO 201	Basic Photography	3 cr.
ARP 311	Architectural Design I	5 cr.	RCT 212	Architectural Design I	4 cr.
ARP 313	History of Architecture I	3 cr.	RCT 220	History of Architecture I.	3 cr.
CEN 308	Statics for Architects	3 cr.	CEN 100	Statics	3 cr.
ARP 317	Building Technology I	3 cr.	RCT 230	Building Technology I	3 cr.
ARP 301	Technical Drawing II	3 cr.	RCT 204	Technical Drawing II	3 cr.
ARP 322	Architectural Design II	5 cr.	RCT 313	Architectural Design II	4 cr.
ARP 324	History of Architecture II	3 cr.	RCT 221	History of Architecture II	3 cr.
CEN 309	Mechanics of Materials for Architects	3 cr.	CEN 102	Mechanics of Materials	3 cr.
ARP 328	Building Technology II	3 cr.	RCT 231	Building Technology II	3 cr.
CSC 273	Comp. Aided Arch. Design	3 cr.	CSC 273	Comp. Aided Arch. Design	3 cr.
ARP 433	Architectural Design III	6 cr.	RCT 314	Architectural Design III	4 cr.
ARP 435	History of Architecture III	3 cr.	RCT 322	History of Architecture III	3 cr.
CEN 419	Structure for Architects	3 cr.	CEN 210	Structure I	3 cr.
ARP 439	Mechanical and Sanitary Systems	3 cr.	RCT 434	Mech. and Sanitary Systems	3 cr.
ARP 431	Acoustics	3 cr.	RCT 332	Building Acoustics	3 cr.
ARP 444	Architectural Design IV	6 cr.	RCT 415	Architectural Design IV	4 cr.
ARP 446	History of Architecture IV	3 cr.	RCT 323	History of Architecture IV.	3 cr.
CEN 439	Concrete Design for Architects	3 cr.	CEN 430	Concrete Design.	3 cr.
ARP 440	Lighting Design and Electrical Systems	3 cr.	RCT 333	Lighting and Elec. Systems	3 cr.
ARP 410	Architectural Model	3 cr.	RCT 305	Architectural Model	3 cr.

	Making				Making	
ARP 555	Architectural Design V	6 cr.		RCT 416	Architectural Design V	4 cr.
ARP 557	Architectural Theories	3 cr.		RCT 424	History of Architectural Theories	3 cr.
ARP 551	Construction Detailing Studio I	3 cr.		RCT 535	Construction Detailing Studio I	3 cr.
ARP 553	Specifications and Quantity Surveying	3 cr.		RCT 551	Spec. and Quant. Surveying.	3 cr.
ARP 561	Urbanism I	3 cr.		RCT 440	Urban Design I	3 cr.
ARP 556	Architectural Design VI	6 cr.		RCT 517	Architectural Design VI	4 cr.
ARP 552	Construction Detailing Studio II	3 cr.		RCT 536	Construction Detailing Studio II.	3 cr.
ARP 554	Surveying + Field Surveying	3 cr.		CEN 150	Surveying	3 cr.
				CEN 151	Field Surveying	1 cr.
ARP 562	Urbanism II	3 cr.		RCT 441	Urban Design II	3 cr.
ARP 591	Senior Project I	6 cr.		RCT 583	Senior Project I	4 cr.
ARP ---	Electives	3 cr.		RCT Pool		3 cr.
	(ARP 564, ARP 565, ARP 566, ARP 567, ARP 568, ARP 569, ARP 581, ARP 582, ARP 583, ARP 584, ARP 585, ARP 586)			(RCT560, RCT561, RCT570, RCT571, RCT481, --)		
ARP 563	Building Rules & Regulations	3 cr.		RCT 450	Laws and Contracts for Arch.	3 cr.
ARP 592	Senior Project II	7 cr.		RCT 584	Senior Project II	4 cr.

DEPARTMENT OF DESIGN

Chairperson: *Mr. Habib Melki*

Administrative Assistant: *Mrs. Joanna Sfeir*

Associate Professor

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

Assistant Professor

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

Fine Arts

Senior Lecturers

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

Kortbawi, John, Diploma, 1977, London College of Printing, London

Graphic Design

Zaccour, Danielle, DES, 1991, Alba

Plastic Arts

Instructors

Daghfal, Graziella, Diploma, 1996, NDU, Lebanon

Interior Design

Matta, Nadim, M.A., 1999, London College of Printing, UK.

Typographic Studies

Mikhael, Diane, MA., 2000, Middlesex University, UK

Design

The Department of Design is currently offering four degrees:

- A Bachelor of Arts in Graphic Design
- A Bachelor of Arts in Interior Design.
- A Bachelor of Arts in Photography & Multimedia
- A Bachelor of Arts in Fashion & Textile Design

The Degree of Bachelor of Arts in Graphic Design

The overall Graphic Design program is designed to concentrate on study and practice of the background, context, skills and approaches that form a true understanding of professional graphic design, for today and the future. As with all our courses in NDU Design Department you will be "learning by doing".

The new Bachelor of Arts Degree in Graphic Design is a 3 year full-time course. This includes a one year full-time Foundation Studies. The student will have different alternatives in choosing from five emphasis areas: typography, illustration, moving images, photography, or packaging. Each program totals 102 credits including the Foundation Studies (28 cr.).

Admission Requirements:

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. All courses with a grade of less than C- must be repeated (see separate Foundation Studies description). In addition all remedial courses, Math and/or English (if required) must be completed. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Graphic Design and other majors in the Design Department of the Faculty of Architecture, Art & Design.

Graduation Requirements:

To receive the degree of Bachelor of Arts in Graphic Design, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. All courses with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

General Education Requirements (GER): 18 cr.

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Core Requirements 28 cr.

Foundation Studies FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements

50 cr.

Common Courses

GDP 311, GDP 312, GDP 313, GDP 314, GDP 315, GDP 321, GDP 322, GDP 323, GDP 324, GDP 325, GDP 326, GDP 413, GDP 414, GDP 422, GDP 423.

Concentration Area Courses

Illustration – GDP 412, GDP 424 & GDP 425

Moving Image – GDP 412, GDP 435 & GDP 436

Photography – GDP 412, GDP 445 & GDP 446

Typography – GDP 412, GDP 454 & GDP 455

Packaging – GDP 465 & GDP 466

Bachelor of Arts in Graphic Design – Illustration Concentration
Suggested Program (102 Credits)

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (17 Credits)

GDP	311	Fundamentals of Graphic Design	3 cr.
GDP	312	Fundamentals of Typography	3 cr.
GDP	313	History of Visual Culture	2 cr.
GDP	314	Applied Graphic Design I	2 cr.
GDP	315	Color & Illustration for Graphic Designers	4 cr.
—	—	GER	3 cr.

Spring Semester (16 Credits)

GDP	321	Visual Communication I	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	2 cr.
GDP	324	Photography for Graphic Designers I	3 cr.
GDP	325	Applied Graphic Design II	2 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

GDP	326	Visual Communication II	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Year III of the Degree Course

Fall Semester (14 Credits)

GDP	412	Packaging	3 cr.
GDP	413	Print Management & Production	3 cr.
GDP	414	Applied Graphic Design III	2 cr.
GDP	424	Advanced Illustration Design I	3 cr.
—	—	GER	3 cr.

Spring Semester (15 Credits)

GDP	422	Professional Practice & Internship	3 cr.
GDP	423	Portfolio Preparation	2 cr.
GDP	425	Advanced Illustration Design II	4 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Bachelor of Arts in Graphic Design - Moving Image Concentration
Suggested Program (102 Credits)

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
ARP	213	Basic Technical Skills	3 cr.
FAP	214	Performing Arts and Music	3 cr.
FAP	215	Art & Culture	2 cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3 cr.
GDP	222	Design Principles II	3 cr.
ARP	223	Descriptive Geometry	3 cr.
GDP	224	Introduction to Photography	3 cr.
FAP	225	Conceptual Communication	2 cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (17 Credits)

GDP	311	Fundamentals of Graphic Design	3 cr.
GDP	312	Fundamentals of Typography	3 cr.
GDP	313	History of Visual Culture	2 cr.
GDP	314	Applied Graphic Design I	2 cr.
GDP	315	Color & Illustration for Graphic Designers	4 cr.
—	—	GER	3 cr.

Spring Semester (16 Credits)

GDP	321	Visual Communication I	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	2 cr.
GDP	324	Photography for Graphic Designers I	3 cr.
GDP	325	Applied Graphic Design II	2 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

GDP	326	Visual Communication II	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Year III of the Degree Course

Fall Semester (14 Credits)

GDP	412	Packaging	3 cr.
GDP	413	Print Management & Production	3 cr.
GDP	414	Applied Graphic Design III	2 cr.
GDP	435	Moving Image I	3 cr.
—	—	GER	3 cr.

Spring Semester (15 Credits)

GDP	422	Professional Practice & Internship	3 cr.
GDP	423	Portfolio Preparation	2 cr.
GDP	436	Moving Image II	4 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Bachelor of Arts in Graphic Design – Photography Concentration
Suggested Program (102 Credits)

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (17 Credits)

GDP	311	Fundamentals of Graphic Design	3 cr.
GDP	312	Fundamentals of Typography	3 cr.
GDP	313	History of Visual Culture	2 cr.
GDP	314	Applied Graphic Design I	2 cr.
GDP	315	Color & Illustration for Graphic Designers	4 cr.
—	—	GER	3 cr.

Spring Semester (16 Credits)

GDP	321	Visual Communication I	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	2 cr.
GDP	324	Photography for Graphic Designers I	3 cr.
GDP	325	Applied Graphic Design II	2 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

GDP	326	Visual Communication II	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Year III of the Degree Course

Fall Semester (14 Credits)

GDP	412	Packaging	3 cr.
GDP	413	Print Management & Production	3 cr.
GDP	414	Applied Graphic Design III	2 cr.
GDP	454	Advanced Typographic Design I	3 cr.
—	—	GER	3 cr.

Spring Semester (15 Credits)

GDP	422	Professional Practice & Internship	3 cr.
GDP	423	Portfolio Preparation	2 cr.
GDP	446	Photography for Graphic Designers III	4 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Bachelor of Arts in Graphic Design – Typography Concentration
Suggested Program (102 Credits)

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
ARP	213	Basic Technical Skills	3 cr.
FAP	214	Performing Arts and Music	3 cr.
FAP	215	Art & Culture	2 cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3 cr.
GDP	222	Design Principles II	3 cr.
ARP	223	Descriptive Geometry	3 cr.
GDP	224	Introduction to Photography	3 cr.
FAP	225	Conceptual Communication	2 cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (17 Credits)

GDP	311	Fundamentals of Graphic Design	3 cr.
GDP	312	Fundamentals of Typography	3 cr.
GDP	313	History of Visual Culture	2 cr.
GDP	314	Applied Graphic Design I	2 cr.
GDP	315	Color & Illustration for Graphic Designers	4 cr.
—	—	GER	3 cr.

Spring Semester (16 Credits)

GDP	321	Visual Communication I	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	2 cr.
GDP	324	Photography for Graphic Designers I	3 cr.
GDP	325	Applied Graphic Design II	2 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

GDP	326	Visual Communication II	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Year III of the Degree Course

Fall Semester (14 Credits)

GDP	412	Packaging	3 cr.
GDP	413	Print Management & Production	3 cr.
GDP	414	Applied Graphic Design III	2 cr.
GDP	454	Advanced Typographic Design I	3 cr.
—	—	GER	3 cr.

Spring Semester (15 Credits)

GDP	422	Professional Practice & Internship	3 cr.
GDP	423	Portfolio Preparation	2 cr.
GDP	455	Advanced Typographic Design II	4 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Bachelor of Arts in Graphic Design – Packaging Concentration
Suggested Program (102 Credits)

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
ARP	213	Basic Technical Skills	3 cr.
FAP	214	Performing Arts and Music	3 cr.
FAP	215	Art & Culture	2 cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3 cr.
GDP	222	Design Principles II	3 cr.
ARP	223	Descriptive Geometry	3 cr.
GDP	224	Introduction to Photography	3 cr.
FAP	225	Conceptual Communication	2 cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (17 Credits)

GDP	311	Fundamentals of Graphic Design	3 cr.
GDP	312	Fundamentals of Typography	3 cr.
GDP	313	History of Visual Culture	2 cr.
GDP	314	Applied Graphic Design I	2 cr.
GDP	315	Color & Illustration for Graphic Designers	4 cr.
—	—	GER	3 cr.

Spring Semester (16 Credits)

GDP	321	Visual Communication I	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	2 cr.
GDP	324	Photography for Graphic Designers I	3 cr.
GDP	325	Applied Graphic Design II	2 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

GDP	326	Visual Communication II	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Year III of the Degree Course

Fall Semester (16 Credits)

GDP	413	Print Management & Production	3 cr.
GDP	414	Applied Graphic Design III	2 cr.
GDP	464	Packaging for Graphic Designers I	5 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Spring Semester (13 Credits)

GDP	422	Professional Practice & Internship	3 cr.
GDP	423	Portfolio Preparation	2 cr.
GDP	465	Packaging for Graphic Designers II	5 cr.
—	—	GER	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 admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. All courses with a grade of less than C- must be repeated (see separate Foundation Studies description). In addition all remedial courses, Math and/or English (if required) must be completed. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Interior Design and other majors in the Design Department of the Faculty of Architecture, Art & Design.

Graduation Requirements

To receive the degree of Bachelor of Arts in Interior Design, a student must complete a total of 136 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. All courses with a grade of less than C- must be repeated. The 136 credits necessary for graduation are divided as follows:

Degree Requirements (136 credits)

General Education Requirements	18 cr.
The GER are distributed as follows:	
Sophomore English: ENL 222 & ENL 236	6 cr.
Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc...	6 cr.
Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc...	6 cr.
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.	

Core Requirements**28 cr.**

Foundation year Courses FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225. The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Major Requirements**84 cr.**

IDP 211, IDP 212, IDP 213, IDP 214, IDP 221, IDP 222, IDP 223, IDP 224, IDP 225, IDP 226, IDP 311, IDP 312, IDP 313, IDP 314, IDP 321, IDP 322, IDP 323, IDP 324, IDP 325, IDP 326, IDP 411, IDP 412, IDP 413, IDP 421, IDP 422, IDP 423.

**Bachelor of Arts Degree in Interior Design
Suggested Program (136 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II of the Degree Course

Fall Semester (15 Credits)

IDP	211	History of Interiors and Furniture I	3cr.
IDP	212	Fundamentals of Interior I	4cr.
IDP	213	Drawing for Interior Design I	2cr.
IDP	214	Materials and Methods of Construction	3cr.
—	—	GER	3cr.

Spring Semester (15 Credits)

IDP	221	History of Interior and Furniture II	3cr.
IDP	222	Fundamentals of Interior II	4cr.
IDP	223	Drawing for Interior Design II	3cr.
IDP	224	Colors in Interiors	2cr.
—	—	GER	3cr.

Summer Session I (9 Credits)

IDP	225	Materials and Finishes	3cr.
IDP	226	Textiles for Interiors	3cr.
—	—	GER	3cr.

Year III of the Degree Course

Fall Semester (15 Credits)

IDP	311	History of Modern Contemporary Interiors	3cr.
IDP	312	Interior Design Project I	4cr.
IDP	313	Applied Interior Design I	2cr.
IDP	314	Interior Detailing and Construction I	3cr.
—	—	GER	3cr.

Spring Semester (16 Credits)

IDP	321	Environmental Graphic Design	3cr.
IDP	322	Interior Design Project II	4cr.
IDP	323	Applied Interior Design II	3cr.
IDP	324	Interior Detailing and Construction II	3cr.
—	—	GER	3cr.

Summer Semester (9 Credits)

IDP	325	Model Making	3cr.
IDP	326	Concepts of Historic Preservation	3cr.
—	—	GER	3cr.

Year IV of the Degree Course

Fall Semester (15 Credits)

IDP	411	Quantity Surveying for Interior Designers	3cr.
IDP	412	Interior Design Studio I	6cr.
IDP	413	Applied Interior Design III	3cr.
—	—	Free Elective	3 cr.

Spring Semester (14 Credits)

IDP	421	Business Practice for Interior Designers	3cr.
IDP	422	Interior design Studio II	6cr.
IDP	423	Integrated Building Systems (HVAC and Plumbing)	2cr.
—	—	Free Elective	3 cr.

Undergraduate Courses: Graphic Design

GDP 212 Design Principles I (2.2); 3 cr.

Various design elements are introduced such as line, shape, plane, texture, color, style and composition.

GDP 222 Design Principles II (2.2); 3 cr.

Relations between 3-D structure and space are explored analytically and synthetically.

GDP 224 Introduction to Photography (2.2) 3 cr.

The use of photography as an aesthetic tool for art and design.

GDP 311 Fundamentals of Graphic Design; (2.2) 3 cr.

This course will explore the development of grids, the use of space (composition), the simple use of typography, the use of a range of materials and media, application of design to a variety of formats i.e. poster, bookcover, shopping bag etc.

GDP 312 Fundamentals of Typography; (2.2) 3 cr.

An introduction to the rudimentary aspects of typography including, the drawing of letterforms, the vocabulary of typography, history of type, classification, etc. The course looks at typography as form in order to help the student develop a sensitivity to the typeface structures rather than on the meaning of words. Students will not use computers and will work primarily in black and white

GDP 313 History of Visual Culture; (2.0) 2 cr.

This course provides a broad overview of the history of visual culture. Periods covered range from the pre- historic to the present. The major historical, cultural, political and intellectual movements of each period will be outlined in

order to provide a context for the various visual cultures studied. Consideration will be given to both stylistic trends and subject matter. The goal is to provide students with a solid understanding of the canon.

GDP 314 Applied Graphic Design I; (1.2) 2 cr.

The course will introduce students to the use of new technology as a helpful medium and covers in depth the basic tools. Thus, this will facilitate the coordination of typographic requirements in the studio and typography courses.

GDP 315 Color & Illustration for Graphic Designers; (2.4) 4 cr.

An introduction to color using traditional tools and materials. The course will cover perceptual understanding of color and the use of color as a communication medium. It will also include the fundamentals in illustration which draws upon use of existing materials, illustration on location, abstract subject matter to assist the student in bringing an idea to life. A range of media will be introduced such as pencil, paints, pastels. *Corequisite:* GDP 311.

GDP 321 Visual Communication I; (2.2) 3 cr.

Introduction of conceptual approaches to design problems, consideration of audience, visual rhetoric, and formats that include sequencing and/or collateral applications. *Prerequisite:* GDP 311.

GDP 322 Applied Typographic Design ; (2.2) 3 cr.

This course focuses on type for meaning, communicating a message appropriately and therefore will move from simple to more complex layouts. A continuation of type history

and more specialized vocabulary. Introduction of 1, 2 and 3 colors. *Prerequisite:* GDP 312.

GDP 323 History of Graphic Design & Contemporary Issues; (2.0) 2 cr. Using the History of Visual Culture as a basis, this course investigates the relationship between the history of visual culture and graphic design. While providing the student with a firm background in the history of graphic design, the course will emphasize the modern period (c. 1900). This would include: formalism, iconography, semiotics, deconstruction, marxism, feminism, orientalism, structuralism, post-structuralism, modernism and post modernism. The relationship between theory and practice will also be considered. This course will aid students in forming a critical analysis in spoken, visual and written formats, and to use historical and contemporary examples from graphic design. *Prerequisite:* GDP 313.

GDP 324 Photography for Graphic Designers I ; (2.2) 3 cr. A more advanced study of 35mm black and white photography building on the basics from Photography I, Students will begin to develop individual concerns and directions for their photography through various theme and content based projects.

GDP 325 Applied Graphic Design II; (1.2) 2 cr. A continuation of Visual Graphics I with an in depth approach to the digital realm, in order to work with images and type combined. This would include creating imagery by the use of new technology, as well as transferable existing visuals. *Prerequisite:* GDP 314

GDP 326 Visual Communication II; (2.2) 3 cr. More complex applications that integrate the knowledge of the previous courses and typography as well.. Includes publication and information design projects. *Prerequisite:* GDP 321

GDP 412 Packaging ; (2.2) 3 cr. Packaging is an important factor in retail environments and a key element in marketing strategies. This course focuses on the technical knowledge needed to execute a design. The preparation of die-cuts, molds, paper section and boards, colors, quality and quantity. Size consideration, shapes and practicality will also be covered. Field trips are required in this course.

GDP 413 Print Management & Production; (2.2) 3 cr. Covers print methods and print techniques including color separation, film preparation, plate processing and the actual production process. It will also include the choice of papers, printing onto various surfaces, paper engineering and management and finishing processes and binding. *Corequisite:* GDP 412

GDP 414 Applied Graphic Design III; (1.2) 2 cr. This course will introduce the basics of design on the screen, utilizing new technology specifically for web design, where the basics of interactivities will be introduced in combination with the previously studied image and text. *Prerequisite:* GDP 325

GDP 422 Professional Design Practice and Internship; (2.2) 3 cr. Overview of the business aspects of design: translation of jobs into a properly written documents, meetings with clients and presentation of work (design and production processes, understanding the brief, debriefing, coding, encoding, budgets, estimating design, fees, etc.), Also how to bill the client (invoices, receipts, etc.), official contracts and how to run a design studio. An internship will be conducted in approved design studios as a first choice. However, students will also have the choice of advertising agencies, pre press, press and post press. It is the student's responsibility to find an internship and to notify the instructor for approval. Hours for the internship could be an intensive short period. *Corequisite:* GDP 423

GDP 423 Portfolio Preparation; (1.2) 2 cr. This course assists students in the development of a portfolio for the professional world using their university projects. It intends to build confidence and develop the ability to articulate and explain work in interview situations. *Corequisite:* GDP 422

GDP 424 Advanced Illustration Design I; (2.2) 3 cr. Students will continue to explore a variety of media to a high level of expertise (dry brush, scratchboard, and others) in creating cover illustrations, card design, social commentary to enable the student to interpret a brief given by a client. *Prerequisite:* GDP 315

GDP 425 Advanced Illustration Design II; (2.4) 4 cr. Students in this course will consider the development and consistency of a sequence of illustrations in a context and to reflect their personal style. Includes use of computer software such as Illustrator and Photoshop as additional media. Students will be given the opportunity to investigate a specialized area of illustration such as editorial, technical and children's book illustrations and to refine their preferences in media. *Prerequisite:* GDP 424

GDP 435 Moving Image I; (2.4) 3 cr. This course will utilize new technology introduce students to the creation and use of moving image/animation for design applications.

GDP 436 Moving Image II; (2.4) 4 cr. Various experimental projects aimed at exploring different uses and approaches to the utilization of moving image design. Students will work on individual projects, which aim to develop the skills and ideas involved with their main area of interest in the field of moving image design. Projects will be proposed by students and must be approved by the instructor. Class will also discuss work being done in the field. *Prerequisite:* GDP 435

GDP 445 Photography for Graphic Designers II; (2.2) 3 cr. Continuation of black and white photography with an emphasis on documentary and photojournalism. Students will work on both in-class and individual projects with a continued emphasis on combining content and technique. *Prerequisite:* GDP 324

GDP 446 Photography for Graphic Designers III; (2.4) 4 cr. An introduction to color photography, including studio lighting and techniques as well as an introduction to medium and large format photographic processes. *Prerequisite:* GDP344

GDP 454 Advanced Typographic Design I; (1.4) 3 cr. An investigation of typography in context. Development of a typeface, opportunities for experimentation as well as details of text type for refinement. Consideration of theoretical and contemporary issues in typography. *Prerequisite:* GDP 322

GDP 455 Advanced Typographic Design II; (2.4) 4 cr. Continuation of conceptual approaches to typography within complex applications. In depth exploration of bilingual situations, cultural issues and an examination of communication. Intensive investigation of selected theoretical approaches applied to typography in both practical and experimental projects. *Prerequisite:* GDP 454

GDP 464 Packaging for Graphic Designers I; (2.2) 5 cr. A concentrated course to explore the feasibility study, printing techniques, materials, die-cuts and molds, as well as the commercial benefits in product selling. Market research is required.

GDP 465 Packaging for Graphic Designers II; (3.4) 5 cr. An opportunity to professionally develop and execute a full range of packaging design or any other 3D project including pop-ups. *Prerequisite:* GDP 464

Undergraduate Courses: Interior Design

IDP 211 History of Interiors and Furniture I (3.0); 3 cr. A study of ancient architecture, interiors and furniture from the beginning of human civilization to the Romanesque period. *Corequisite:* IDP 212.

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

IDP 213 Drawing for Interior Design I (1.2) 2 cr. Development of freehand perspective

drawing skills appropriate for the presentation of Interior Architectural design. *Corequisite:* IDP 212.

IDP 214 Materials and Methods of Construction (2.2); 3 cr. This course combines case studies with lectures, readings and discussions on concepts of design technology.

IDP 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:* IDP 211.
Corequisite: IDP 222.

IDP 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:* IDP 212.

IDP 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:* IDP 213, *Corequisite:* IDP 222.

IDP 224 Colors in Interiors (1.2); 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:* IDP 222.

IDP 225 Materials and Finishes (1.4); 3 cr. This course will offer an introduction to construction detailing for interiors, focusing on architectural millwork.

IDP 226 Textiles for Interiors (2.2); 3 cr. Effects of fibers, yarns, fabrics and finishes on appearance and performance. Study of the construction of textile products used in interiors.

IDP 311 History of Modern Contemporary Interiors (3.0); 3 cr. This course will be an overview of the 20th Century art, culture, interior and furniture. *Prerequisite:* IDP 221, *Corequisite:* IDP 312.

IDP 312 Interior Design Project I (2.4); 4 cr. This course covers the creative triggering of the design problem solving process through schematics. It will also investigate human factors as an essential ingredient in the design process. *Prerequisite:* IDP 222.

IDP 313 Applied Interior Design I (1.2); 2 cr. This course will explore the pragmatics of computer hardware and software as integral tools to contemporary design. *Corequisite:* IDP 312.

IDP 314 Interior Detailing and Construction I (2.2); 3 cr. Introduces the students to the various material finishes used in interior design. *Corequisite:* IDP 312.

IDP 321 Environmental Graphic Design (2.2); 3 cr. This course will study the presentation of information in the designed environment. *Corequisite:* IDP 322.

IDP 322 Interior Design Project II (2.4); 4 cr. The student is challenged to work on a major construction displaying creativity and ability to remodel this space according to new functions. *Prerequisite:* IDP 312.

IDP 323 Applied Interior Design II (2.2); 3 cr. Develops a more professional and creative approach to design while broadening the student's technical base. *Prerequisite:* IDP 313, *Corequisite:* IDP 322.

IDP 324 Interior Detailing and Construction II (2.2); 3 cr. Review, discussion and analysis of interior construction systems used in commercial and institutional structures. *Prerequisite:* IDP 315, *Corequisite:* IDP 322.

IDP 325 Modelmaking (1.4); 3 cr. A course primarily designed to introduce the student to planning and building of various types of models used in interior architecture. *Prerequisite:* IDP 314.

IDP 326 Concepts of Historic Preservation (2.2); 3 cr. Projects consist of a search for new remodeling techniques, constructing and preserving historic buildings and monuments. *Corequisite:* IDP 322.

IDP 411 Quantity Surveying for Interior Designers (2.2); 3 cr. Emphasis on the principals of construction

IDP 412 Interior Design Studio I (3.6); 6 cr. This course covers all aspects of professional presentation of a complete construction drawing-file to secure accurate executions. *Prerequisite:* IDP 323.

IDP 413 Applied Interior Design III (2.2); 3 cr. This course will show students how to create computer animation and 3-rendered materials within an interior space. *Prerequisite:* IDP 323, *Corequisite:* IDP 412.

IDP 421 Business Practice for Interior Designers (3.0); 3 cr. Focuses on the legal aspects of design and contract documents for

interior architecture. *Corequisite:* IDP 422.
Prerequisite: IDP 411

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

IDP 423 Integrated Building Systems (HVAC and Plumbing) (1.2); 2 cr. This course provides a structured opportunity to study and integrate all components of architectural technology into a comprehensive whole.

The Degree of Bachelor of Arts in Photography & Multimedia

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. All courses with a grade of less than C- must be repeated (see separate Foundation Studies description). In addition all remedial courses, Math and/or English must be completed. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Photography & Multimedia majors in the Design Department of the Faculty of Architecture, Art & Design.

Students, who are computer illiterate, are encouraged to take CSC 201 within their GER or free elective courses before starting their major requirements.

Graduation Requirements

To receive the degree of Bachelor of Arts in Photography & Multimedia, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all major courses. Any major course with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

General Education Requirements (GER):

18 cr.

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236

6 cr

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

6 cr.

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

6 cr.

Core Requirements

28 cr.

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements

50 cr.

PDP 311, PDP 312, PDP 313, PDP 314, FAP 315, PDP 321, PDP 322, PDP 323, PDP 324, FAP 325, PDP 326, PDP 327, PDP 328, PDP 411, PDP 412, PDP 413, PDP 414, PDP 421, PDP 422, PDP 423.

**Bachelor of Arts Degree in Photography & Multimedia
Suggested Program (102 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II

Fall Semester (17 Credits)

PDP	311	Intermediate principles of photography	3cr.
PDP	312	Visual concepts in photography	3cr.
PDP	313	Color theory	3cr.
PDP	314	Digital Imaging I	2cr.
—	—	GER	3cr.

Spring Semester (16 Credits)

PDP	321	Advanced principles of photography	3cr.
PDP	322	Studio lighting workshop	2cr.
PDP	323	Advanced color techniques	3cr.
PDP	324	Digital Imaging II	2cr.
FAP	325	History of Modern Art	3cr.
PDP	326	Studio & Large Format Photography	3cr.

Summer Semester (8 Credits)

PDP	327	History of photography	3cr.
PDP	328	Professional business practice	2cr.
—	—	GER	3cr.

Year III

Fall Semester (17 Credits)

PDP	411	Multimedia I	2cr.
PDP	412	Advertising photography	2cr.
PDP	413	Senior project I	2cr.
PDP	414	Research & Creativity	2cr.
—	—	GER	3cr.
—	—	GER	3cr.
—	—	Free Electives	3cr.

Spring Semester (13 Credits)

PDP	421	Multimedia II	2cr.
PDP	422	Photojournalism	2cr.
PDP	423	Senior project II	3cr.
—	—	GER	3cr.
—	—	Free Electives	3cr.

Undergraduate Courses: Photography & Multimedia

PDP 311 Intermediate Principles of photography (2.2); 3 cr. An intensive exploration of photographic theory covering metering techniques, optics, and chemistry. Students learn how equipment works and complete assignment which strengthen their shooting and printing techniques. with hands-on projects designed to further their understanding of photography theory and technique.

PDP 312 Visual Concepts in Photography (2.2); 3 cr. A survey of visual concepts in the philosophy of photography. Students investigate theories of image and photography through lectures, gallery visits, and discussions.

PDP 313 Color Theory (2.2); 3 cr. An introduction to color that goes beyond photographic application to emphasize color design theory, composition, and perceptual and psychological aspects of color. Also covered are color materials, processes, and techniques. Emphasis on creating quality images on transparency films. Students develop a technical proficiency and an aesthetic awareness of the creative uses of color photography. Emphasis is placed on negative to positive color printing through the exploration of films, papers, processes, and color temperatures. Lectures, demonstrations, and critiques help students master the fundamentals of exposing, processing, and printing.

PDP 314 Digital Imaging (Photography) I (1.2); 2 cr. Introduces students to the world of digital imaging and capture with hands on workshops in the studio and on location. It also introduces the students to the manipulation, retouching, multimedia and desktop and web publishing.

PDP 321 Advanced Principles of photography (2.2); 3 cr. An advanced treatment of theory and techniques covers exposure evaluation systems, sensitometry, chemistry, optics, and terminology. Emphasis on understanding why things work the way they do. Students learn to test and evaluate films and papers, mix formulas, and do systematic meter evaluations of shooting situations. Shooting assignments and critiques

augment theoretical understanding. *Prerequisite:* PDP 311.

PDP 322 Studio lighting Workshop (1.2); 2 cr. This course introduces beginning level students to the general concepts for studio lighting. It will also give intermediate and advanced level students an opportunity to improve their lighting skills. Students will utilize the technical characteristics and Artistic possibilities of strobe and tungsten lighting as applied in table top, fashion and portrait photography. Shooting sessions will be done in both black and white and color transparency films. *Prerequisite:* PDP 311.

PDP 323 Advanced Color Techniques (2.2); 3 cr. Course material integrates the theories and techniques of negative and positive color films with research into specialty films and papers including internegative film and display materials. Emphasis is placed on negative to positive printing processes. *Prerequisite:* PDP 313.

PDP 324 Digital Imaging (Photography) II (1.2); 2 cr. Introduces students to the world of digital imaging and capture with hands on workshops in the studio and on location. It also introduces the students to the manipulation, retouching, desktop and web publishing. *Prerequisite:* PDP 314.

PDP 326 Studio and Large Format Photography (2.2); 3 cr. Through demonstrations and hands-on experience, students become acquainted with the large format view camera. Studio and location, camera movements and perspective correction, and film processing are explored. *Prerequisite:* PDP 311.

PDP 327 History of Photography (2.2); 3 cr. A comprehensive survey of photography from its beginnings in the nineteenth century to the present. Course content covers the medium's technology and aesthetic evolution. Students explore the social and political impact of photography upon the last two centuries.

PDP 328 Professional Business Practices (1.2); 2 cr. A survey of various subjects of

importance to any photographer wishing to survive in the world including promotion freelance skills, marketing, taxes and copywriting law. Destinated to help both the commercial and fine art photographers. *Prerequisite:* PDP 311.

PDP 411 Multimedia I (1.2); 2 cr. An exploration of the possibilities of a variety of art materials and techniques; line films, halftones, tint screens, press and patterns, and posterization are covered. *Prerequisite:* PDP 321.

PDP 412 Advertising Photography (1.2); 2 cr. A treatment of various types of corporate and editorial publications, including magazines brochures and annual reports. Students' concentrate on strengthening their existing portfolios, Promotion, editorial career Access, and marketing strategies are addressed. It expands on beauty and glamour photography, contract shooting and collaborating with advertising and modeling agencies and stylists. Work is done in the studio and on location. Portfolio development is emphasized. *Prerequisite:* PDP 321.

PDP 413 Senior Project I (1.2); 2 cr. Is the preparation stage of the senior project. It involves an under supervision research, and presentation that would lead to production of the final project. *Prerequisite:* PDP 321.

PDP 414 Research & Creativity (2.2); 3 cr. The course is emphasizing photography as a

means of Artistic expression. Students present their work for discussion and critics. Contemporary and historical ideas and movements are discussed. Visits are made to local exhibitions and established fine art photographers, historical, technical and aesthetic approaches. The aim is to further the student's technical proficiency and aesthetic awareness of the creative uses of black-and-white and color photography. *Prerequisite:* PDP 321.

PDP 421 Multimedia II (1.2); 2 cr. An introduction to the use of photography for interactive purposes. *Prerequisite:* PDP 411.

PDP 422 Photojournalism (1.2); 2 cr. A survey and production course offering a wide perspective of the issues facing newspaper, freelance, and magazine photographers. History of the genre, techniques, ideas and aesthetics are discussed. Students shoot various assignments including a major photo essay. Course also emphasizes historic and contemporary practices of documentary photography. Technical and theoretical concerns are addressed through work on a collaborative black-and-white project. Students learn to write copy photography in a series, and edit images to create effective documentary projects. *Prerequisite:* PDP 411.

PDP 423 Senior Project II (2.2); 3 cr. Production of the final project under supervision. *Prerequisite:* PDP 411.

The Degree of Bachelor of Arts in Fashion & Textile Design.

The program is organized to teach and practice the skills of dressmaking and tailoring, knit/weave, construction and printing of textiles etc. The graduates will be able to create original, new, design concepts with a modern, innovative aesthetic quality for a national and international market; and be able to produce these as individual prototypes or planned to be put into production. All courses within the program stress on the ability to 'make' and to 'create'; and specify designs for manufacture into reality.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. All courses with a grade of less than C- must be repeated (see separate Foundation Studies description). In addition all remedial courses, Math and/or English must be completed. Students who fail to meet the above requirements will not be allowed to proceed to the Bachelor of Arts in Fashion and Textiles

Design and other majors in the Design Department of the Faculty of Architecture, Art & Design.

Students, who are computer illiterate, are encouraged to take CSC 201 within their GER or free elective courses before starting their major requirements.

Graduation Requirements

To receive the degree of Bachelor of Arts in Fashion and Textiles Design, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all major courses. Any major course with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

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

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236 **6 cr**

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... **6 cr.**

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

Core Requirements **28 cr.**

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements **50 cr.**

FTP 311, FAP 312, FTP 313, FAP 314, FAP 315, FTP 316, FTP 321, FAP 322, FTP 323, FTP 324, FAP 325, FTP 411, FTP 412, FAP 413, FTP 414, FTP 412, FTP 421, FTP 422, FTP 423, FAP 423, FTP 424.

**Bachelor of Arts Degree in Fashion & Textile Design
Suggested Program (102 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II

Fall Semester (18 Credits)

FTP	311	Fashion & Textiles I	3cr.
FAP	312	Drawing III	3cr.
FTP	313	Surface Design I	2cr.
FAP	314	Conceptual Visual Thinking I	2cr.
FAP	315	History of Art	3cr.
FTP	316	Skills & Technology I	2cr.
—	—	GER	3cr.

Spring Semester (16 Credits)

FTP	321	Fashion & Textiles II	3cr.
FAP	322	Drawing IV	3cr.
FTP	323	Surface Design II	2cr.
FTP	324	Skills & Technology II	2cr.
FAP	325	History of Modern Art	3cr.
—	—	GER	3cr.

Summer Semester (9 Credits)

—	—	GER	3cr.
—	—	GER	3cr.
—	—	GER	3cr.

Year III

Fall Semester (15 Credits)

FTP	411	Fashion & Textiles III	3cr.
FTP	412	Multi-Media & Personal Development I	3cr.
FAP	413	Digital Media I for the Fine Artist	2cr.
FTP	414	Studio Work I	2cr.
FTP	415	History of Fashion & Textile Design	2cr.
—	—	Free Elective	3cr.

Spring Semester (13 Credits)

FTP	421	Fashion & Textiles IV	3cr.
FTP	422	Multi-Media & Personal Development II	3cr.
FTP	423	Professional Practice & Marketing	1cr.
FAP	423	Digital Media II for the Fine Artist	2cr.
FTP	424	Studio Work II	1cr.
—	—	Free Elective	3cr.

Undergraduate Courses: Fashion & Textile Design

FTP 311 Fashion & Textiles I (2.2); 3 cr. Basic skills for fashion: drawing; pattern cutting and skills (sewing dress making, seamstress and tailoring skills); and basic construction skills for: textiles, rugs, tapestries: weave, knit.

FTP 313 Surface Design I (1.2); 2cr. Practice in techniques and processes of: knit, weave, printing, dyeing textiles; tapestries, carpet and rug making, felt, flocking; and, hand made, woven, and machine-printed floor tiles, coverings and wall coverings; and crafts and traditional techniques in metalworking, basket and rug making, and leatherwork; silversmithing and fine craftsmanship in using special gems and materials as part of tapestry and constructed textiles.

FTP 316 Skills & Technology I (1.2); 2cr. Continued study and practice in weaving, and all basic production technologies associated with tapestries and constructed textiles.

FTP 321 Fashion & Textiles II (2.2); 3cr. Making: entails continued practice throughout the course at seamstress and tailoring skills, cutting and sewing; selecting fabrics etc. Historical and theoretical studies plus associated disciplines. *Prerequisite:* FTP 311.

FTP 323 Surface Design II (1.2); 2cr. Study and practice with surface effects, tactile surfaces; wood and metal materials and sheets; metal and natural fibers; rubber, Elasticized, latex and Lycra fabrics, contour-fabrics, etc. *Prerequisite:* FTP 313.

FTP 324 Skills & Technology II (1.2); 2cr. Industrial visits to textile and craft workshops and manufacturing, and printing plants. *Prerequisite:* FTP 316.

FTP 411 Fashion & Textiles III (2.2); 3cr. Drawing and visual research leading to concept

boards for three dimensional and bas-relief surface designs, for objects and materials. *Prerequisite:* TP 321.

FTP 412 Multi-Media & Personal Development I (2.2); 3cr. Professional Practice in a self-employed or employed context; the nature work and the process of commissioning work for the textile, fashion, interior design, art and architecture professions lecture program. *Prerequisite:* FTP 321.

FTP 414 Studio Work I (1.2); 2cr. Development of student's final thesis produced to support their personal collection. *Prerequisite:* FTP 321.

FTP 415 History of Fashion & Textile Design (2.0); 2cr. International ethnic techniques, and cultural differences; East and West influences: cause and affects.

FTP 421 Fashion & Textiles IV (2.2); 3cr. Guided preparation of proposals, submitted by students for planning their contribution to the groups first fashion show based on researched historical and theoretical themes and developed to influence a modern fashion context. *Prerequisite:* FTP 411.

FTP 422 Multi-Media & Personal Development II (2.2); 3cr. This course is a continuation of the previous course FTP 412. *Prerequisite:* FTP 412.

FTP 423 Professional practice & marketing (1.0); 1cr. Professional practice, marketing and fashion promotion. *Prerequisite:* FTP 411.

FTP 424 Studio Work II (1.0); 1cr. Submission and assessment of student's final thesis produced to support their personal collection. Prerequisite FTP 414.

DEPARTMENT OF ART AND MUSIC

Secretary: *Miss Kamale Moubarak*

Visiting Professors

Kesrouani, Rev. Elias, Ph. D., 1989, Sorbone Paris 4, France
Musicology

Art Section

The Degree Bachelor of Arts In Studio Arts

This degree is designed to offer the student a possibility to engage critically with the contemporary Lebanese art culture. It is fundamentally a cross disciplinary pedagogical program which aims at developing in the student, and consequently in the context of a transformed art scene, a desire to reformulate the arts relation with the public sphere. It is a program, which elaborates the tradition of the studio process of art making by equally emphasizing art historical and theoretical studies.

The Bachelor of Arts Degree in Studio Arts spans 3 years of full-time studies including a one-year Foundation Studies common to all other degree courses in the Faculty. The program totals 102 credits including the Foundation Year (28 credits). The Studio Arts program is divided into three full-time phases each of one academic year, (sophomore, junior and senior), commencing each September and concluding each July.

There is no entrance to the course at Mid-term or spring semesters. The final degree assessment is in June/July of the third (Senior) year.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated (see separate Foundation Studies description). All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Studio Arts and other majors in the Departments of the Faculty of Architecture, Art & Design.

Students, who are computer illiterate, are encouraged to take CSC 201 within their GER or free elective courses before starting their major requirements.

Graduation Requirements

To receive the degree of Bachelor of Arts in Studio Arts, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

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

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Core Requirements **28 cr.**

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements **50 cr.**

FAP 311, FAP 312, FAP 313, FAP 314, FAP 315, FAP 321, FAP 322, FAP 323, FAP 324, FAP 325, FAP 411, FAP 412, FAP 413, FAP 414, FAP 415, FAP 421, FAP 422, FAP 423, FAP 424.

**Bachelor of Arts Degree in Studio Arts
Suggested Program (102 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II

Fall Semester (17 Credits)

FAP	311	Painting I	3cr.
FAP	312	Drawing III	3cr.
FAP	313	Sculpture I	3cr.
FAP	314	Conceptual Visual Thinking I	2cr.
FAP	315	History of Art	3cr.
—	—	GER	3cr.

Spring Semester (17 Credits)

FAP	321	Painting II	3cr.
FAP	322	Drawing IV	3cr.
FAP	323	Sculpture II	3cr.
FAP	324	Conceptual Visual Thinking II	2cr.
FAP	325	History of Modern Art	3cr.
—	—	GER	3cr.

Summer Semester (9 Credits)

—	—	GER	3cr.
—	—	GER	3cr.
—	—	GER	3cr.

Year III

Fall Semester (14 Credits)

FAP	411	Multi-Media & Image Develop. I (Painters/Sculptors)	3cr.
FAP	412	Print Media	3cr.
FAP	413	Digital Media I for the Fine Artist	2cr.
FAP	414	Studio Work I	1cr.
FAP	415	Conceptual Visual Thinking III	2cr.
—	—	Free Elective	3cr.

Spring Semester (13 Credits)

FAP	421	Multi-Media & Image Develop. II (Painters/Sculptors)	3cr.
FAP	422	Installation Art	3cr.
FAP	423	Digital Media II for the Fine Artist	2cr.
FAP	424	Studio Work II	3cr.
—	—	Free Elective	3cr.

Undergraduate Courses: Studio Arts

FAP 101 Introduction to Music and Art (3.0); 3 cr. Introduces students to techniques and representative works in the music and arts of various periods.

FAP 201 Intro to Painting (2.2); 3 cr. Introduces the student to different materials of painting, construction, composition and paint handling.

FAP 202 Intro to Sculpture (2.2); 3 cr. A course designed to introduce the student to 3-dimensional forms. Emphasis will be on the concept of modeling, carving, casting and constructing as well as developing new modes of expression.

FAP 203 Intro to Ceramics (2.2); 3 cr. This course will allow the students to build forms from clay using basic handbuilding techniques and the potter's wheel.

FAP 204 Intro to Printmaking (2.2); 3 cr. Students experiment with classical and contemporary methods for creating multiple originals.

FAP 205 Intro to Textiles (2.2); 3 cr. Introduction to weaving and surface design. Basic elements of color, texture, and structure.

FAP 211 Drawing I (2.2); 3 cr. Eye and hand coordination are developed through the use of different drawing techniques.

FAP 214 Performing Arts and Music (2.2); 3 cr. Designed to enhance student's creativity in discovering the fields of theater, dance and music.

FAP 215 Art & Culture (1.2); 2 cr. The aim of this course is to broaden the students' culture understanding. Students will experience a variety of forms of expression, which may include sound, movement, time, and space.

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

FAP 225 Conceptual Communication (1.2) 2 cr. A course based on "visual thinking" exercises for the development of the students ideas and visual expressions.

FAP 311 Painting I (2.2); 3 cr. This is a beginning course dealing with different painting techniques.

FAP 312 Drawing III (2.2); 3 cr. This course consists on a complete study of the human anatomy (skeletal & muscular system) .It is designed to improve the sense of observation, proportion, structure while drawing the figure in different movement considering its different expressions. *Prerequisite* FAP 221.

FAP 313 Sculpture I (2.2) ; 3 cr. The course is designed to introduce the three dimensions form as well as expose the various sculptural techniques of modeling, carving, casting, mold making. Emphasis will be on clay modeling and Plaster. Traditional & conceptual approach to sculpture will be addressed.

FAP 314 Conceptual Visual Thinking I (1.2) ; 2 cr. This course challenge the students' capacity to conceptualize ideas related to contemporary art and presented by the instructor. The student will be using a variety of materials in order to communicate and develop his or her concept.

FAP 315 History of Art (3.0); 3 cr. This course is an exposure to a discussion of the major concepts and developments in the classical period in the history of art. Is not meant as a compilation of information and dates students will forget as soon as the course is over.

FAP 321 Painting II (2.2); 3 cr. This is an advanced course in painting techniques using modern and contemporary approaches. An investigation of new material techniques using different painting surfaces. *Prerequisite:* FAP 311.

FAP 322 Drawing IV (2.2); 3 cr. This course is designed to explore various approaches and techniques through sketching. It consist on a quick and rough representation of an object, a

scene, an activity etc...The goal of this course is to develop and explore individual expression. *Prerequisite:* FAP 312.

FAP 323 Sculpture II (2.2) ; 3 cr. This course is a continuation of sculpture I with more advanced projects. New materials and techniques will be introduced and more individual freedom in choosing the media will be given, which will enhance personal vision and develop individual expression. *Prerequisite:* FAP 313.

FAP 324 Conceptual Visual Thinking II (1.2); 2 cr. This course challenge the students' capacity to conceptualize ideas related to contemporary culture and presented by the instructor. The student will be using a variety of materials in order to communicate and develop his or her concept. *Prerequisite:* FAP 314.

FAP 325 History of Modern Art (3.0); 3 cr. This course is an exposure to a discussion of the major concepts and developments in the modern contemporary history of art. This course should be relevant to the students studies and personal researches.

FAP 411 Multi-Media & Image Development I (Painters / Sculptors) (2.2) 3 cr. This is the course where student can choose to work with different techniques from video and computer art to realistic painting and sculpture. This multi-media approach is geared towards the development of a personal vocabulary as well as acquiring of the needed skills. *Prerequisites:* FAP 321 & FAP 323.

FAP 412 Print Media (2.2); 3 cr. General introduction to printmaking techniques such as intaglio: etching, relief, etc...*Prerequisites:* FAP 321 & FAP 323.

FAP 413 Digital Media I for the Fine Artist (1.2); 2 cr. An introductory course, offering technical instruction in operating different software's on computers. *Prerequisites:* FAP 321 & FAP 323.

FAP 414 Studio Work I (0.2); 1 cr. Third year students will have access to a small but permanent and private space, where they would spend at least 3 hours per week developing their research and work. A faculty member will meet

privately with each student to discuss and critique the development work. Independent studio work is where the student gets a preview of what it feels to work independently in a studio, not guided by a classroom project or a teacher. This is the place to acquire self-motivation while guided for one year by an encouraging faculty member. *Prerequisites:* FAP 321 & FAP 323.

FAP 415 Conceptual Visual Thinking III (1.2); 2 cr. This course challenge the students' capacity to conceptualize ideas related to contemporary issues and presented by the instructor. The student will be using a variety of materials in order to communicate and develop his or her concept. *Prerequisite:* FAP 324.

FAP 421 Multi-Media & Image Development II (Painters / Sculptors) (2.2) 3 cr. Advanced level of the multi-media approach studied in FAP 411 and is geared towards the development of a personal vocabulary. *Prerequisite:* FAP 411.

FAP 422 Installation Art (2.2); 3 cr. This course attempts to synthesize several intersecting problematics from the practices of painting, sculpture, architecture, theater and theories dealing with the issues of 'spectatorship'. These issues are studied both within the parameters of an interior space and on the site of a public space. *Prerequisite:* FAP 411.

FAP 423 Digital Media II for the Fine Artist (1.2); 2 cr. This course builds on the technical skills acquired during the previous course. *Prerequisite:* FAP 413.

FAP 424 Studio Work II (1.4); 3 cr. This course is a continuation of the previous course FAP 414. *Prerequisite:* FAP 414.

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

FDP 214 Design for Advertising (2.2); 3 cr. This course is designed for the communication art students. It emphasizes both the functional and the aesthetic aspects of design. *Prerequisite:* FDP 201.

FDP 490 Senior Study (2.2); 3 cr. Research in any special topic dealing with history of

architecture, furniture, antiques, textiles or costume design. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Arts In Performing Arts

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated (see separate Foundation Studies description). All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Performing Arts and other majors in the Departments of the Faculty of Architecture, Art & Design.

Students, who are computer illiterate, are encouraged to take CSC 201 within their GER or free elective courses before starting their major requirements.

Graduation Requirements

To receive the degree of Bachelor of Arts in Performing Arts, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all major courses. Any major course with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

General Education Requirements (GER): 18 cr.

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Core Requirements 28 cr.

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements 50 cr.

FPA 311, FPA 312, FTA 313, FPA 314, FPA 315, FPA 316, FPA 321, FPA 322, FPA 323, FPA 324, FPA 325, FPA 326, FPA 411, FPA 412, FPA 413, FPA 414, FPA 421, FPA 422, FPA 423, FPA 424.

**Bachelor of Arts Degree in Performing Arts
Suggested Program (102 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II

Fall Semester (16 Credits)

FPA	311	Acting I	3cr.
FPA	312	Make-up, Costume and Set Design	3cr.
FTA	313	History of the Theatre	2cr.
FPA	314	Movement I	2cr.
FPA	315	Voice and Text I	2cr.
FPA	316	Resident Workshop	1cr.
—	—	GER	3cr.

Spring Semester (16 Credits)

FPA	321	Acting II	3cr.
FPA	322	Light, Sound, and Multi-Media	3cr.
FPA	323	Text Analysis	2cr.
FPA	324	Movement II	2cr.
FPA	325	Voice & Text II	3cr.
—	—	GER	3cr.

Summer Semester (9 Credits)

FPA	326	Theater in Performance	3cr.
—	—	GER	3cr.
—	—	GER	3cr.

Year III

Fall Semester (16 Credits)

FPA	411	Acting III	3cr.
FPA	412	Creative dramatics	2cr.
FPA	413	Fields of Performances I	2cr.
FPA	414	Directing I	3cr.
—	—	GER	3cr.
—	—	Free Elective	3cr.

Spring Semester (14 Credits)

FPA	421	Directing II	3cr.
FPA	422	Senior Study	3cr.
FPA	423	Fields of Performance II	2cr.
FPA	424	Playwriting Workshop	3cr.
—	—	Free Elective	3cr.

Undergraduate Courses: Performing Arts

FPA 311 Acting I (2.2); 3 cr. English/ Arabic. The course explores movement for the actor and establishes basic physical warm-up techniques that serve the student throughout his or her studies. Includes the actor's exploration of stage space, and building character, through improvisation and text work.

FPA 312 Make-up, Costume and Set Design (2.2); 3 cr. An exploration of the collaborative process of designing for the live theatre. (1) Basic techniques of make-up for the stage including corrective make-up, and fantasy make-up. (2) Basic techniques of costume design for the stage including research, patterning, setting, constructing and fitting costumes. (3) Basic techniques of set design for the stage. Emphasis on the analysis of the dramatic text, research and the use of imagery to support the dramatic intent of a particular production, class project will engage students in using a variety of medium to explore how architecture, the arrangement of space, and the elements of design are used dramatically.

FPA 314 Movement I (1.2); 2 cr. This course is a physically demanding exploration of the role of the body as a main tool of performance. Training student in making connections with their bodies as a mean of assimilating and reacting to external/ internal stimuli without allowing the mind faculties and/or normative social behavior to mask the process.

FPA 315 Voice and Text I (1.2); 2 cr. English/ Arabic. The course consists of breathing and vocal exercises that aim at developing the actor's capacity of vocal expression.

FPA 316 Resident Workshop (0.2); 1 cr. English/ Arabic. Workshop with visiting theatre professionals which may include stage directors, designers, choreographers, and professional performers. This workshop leads to student's performances based on workshops, and supervised by the visiting practitioner and co-instructor.

FPA 321 Acting II (2.2); 3 cr. English/ Arabic. A continuation of Acting I with specific periods of theatrical and dramatic history explored; for

instance, Greek and Roman theatre, Period Drama, Spanish Golden Age, Arabic Modern and others. *Prerequisite:* FPA 311.

FPA 322 Light, Sound, and Multi-Media (2.2); 3 cr. This course will consider design and technology in theatre. It will entail three distinctive parts: (1) Light Design: an exploration of the process of seeing, basic theories of color, and the psychological and physical characteristics of light. This part of the course considers the role of light as a flexible, expressive art medium. (2) Sound Design: the use of sound as a medium of design for the theatre; research and creation of sound score, recording and engineering techniques, live effects and projects in live and studio sound production. (3) This course explores digital multimedia as an option of stage design. Students will be exposed to a variety of media and to techniques such as video, computer animation, and projection. Students will learn how to incorporate such elements within the other elements of stage design through research and projects. *Prerequisite:* FPA 311.

FPA 323 Text Analysis (2.0); 2 cr. Through an exploration of various plays from different periods, the course aims at equipping the students with the necessary tools of analyzing, and interpreting texts. *Prerequisite:* FPA 311.

FPA 324 Movement II (1.2); 2 cr. A continuation of Movement I. *Prerequisite:* FPA 314.

FPA 325 Voice & Text II (2.2); 3 cr. A continuation of Voice and Text I. *Prerequisite:* FPA 315.

FPA 326 Theatre in Performance (2.2); 3 cr. English/ Arabic This course entails a collaborative process that leads to a production, which will represent the department in festivals. A part from the registered students, the course is open to students from across the program, as well as, to the community. *Prerequisite:* FPA 311.

FPA 411 Acting III (2.2); 3 cr. English/ Arabic. A continuation of Acting II with a

survey and workshops on different schools of acting; for instance, Stanislavski, Brecht, Boal, Grotowski, Mnouchkine. *Prerequisite:* FPA 321.

FPA 412 Creative Dramatics (1.2); 2 cr. English/ Arabic A study of the principles and methods of developing original dramatization with children. Observation of children 's classes in creative dramatics is included. *Prerequisite:* FPA 321.

FPA 413 Fields of Performances I (1.2); 2 cr. English/ Arabic. This course offers the students the opportunity to be exposed to fields of performances such as: children theatre, puppetry, mime, musical, "Attitudologie", story telling, stage combat, dance, circus and others.

FPA 414 Directing I (2.2); 3 cr. English/ Arabic. Methods, theories, exercise, and practice in directing and presenting theatrical and non-theatrical texts. Special attention will be given to dramaturgy, and composition in space and time. *Prerequisite:* FPA 321.

FPA 421 Directing II (2.2); 3 cr. English/ Arabic. A continuation of "Directing I" on a more advanced level. *Prerequisite:* FPA 414.

FPA 422 Senior Study (2.2); 3 cr. English/ Arabic. Individual study directed by the instructor in a selected area of study. *Prerequisite:* FPA 411.

FPA 423 Fields of Performance II (1.2); 2 cr. English/ Arabic. Same structure as "Fields of Performances I". Different fields will be explored. *Prerequisite:* FPA 411.

FPA 424 Playwriting Workshop (2.2); 3 cr. English/ Arabic. Focus is on creativity in the writing of theatrical texts. Students will engage in analytical exercises in which they will learn to build characters, construct plot and develop point of view. *Prerequisite:* FPA 411.

FTA 313 History of Theatre (2.0); 2 cr. The development of the theatre from its beginning till present.

The Degree of Bachelor of Arts in Arts and Crafts

The Bachelor of Arts in Arts and Crafts combines: Arts, Crafts, Ceramics, Jewelry, Metal Working, Leather Working with textile design for fiber arts so as to express the individuals' aesthetic capabilities.

Students learn both traditional and innovative techniques, working in two and three dimensions, with an emphasis on creative approaches to design, use of media including computer applications and technical information.

Ceramics, jewelry, metal working and leather work will be studied and practiced in a workshop environment involving traditional methods and new technologies. Courses in weaving cover four-harness and multi-harness structures, open weaves, dyed and painted warps, tapestry, computer aided techniques and others which allow the properties of color, fiber and texture to interact.

In surface design courses, students will learn processes such as silk-screen printing, resist dyeing, block-printing and design technologies where patterns are designed on paper and computer.

A variety of non-loom methods will be experienced such as hand-made paper, knotting, basketry, and others.

Projects assigned may include creations such as rugs, wall pieces, installations, garments, or sample designs; ceramics, jewelry; metal worked products and leather goods.

Graduates may design for industry, while others start their own business or build an exhibition portfolio as a Fine Artist within their chosen field of arts and crafts.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete the Foundation Studies with a 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated (see separate Foundation Studies description). All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Arts & Crafts and other majors in the Departments of the Faculty of Architecture, Art & Design.

Students, who are computer illiterate, are encouraged to take CSC 201 within their GER or free elective courses before starting their major requirements.

Graduation Requirements

To receive the degree of Bachelor of Arts in Arts & Crafts, a student must complete a total of 102 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 102 credits necessary for graduation are divided as follows:

Degree Requirements (102 credits)

General Education Requirements (GER): 18 cr.

The GER are distributed as follows:

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Core Requirements 28 cr.

Foundation Studies: FAP 211, GDP 212, ARP 213, FAP 214, FAP 215, FAP 221, GDP 222, ARP 223, GDP 224, FAP 225.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements 50 cr.

FAC 311, FAP 312, FAC 313, FAP 314, FAP 315, FAC 316, FAC 321, FAP 322, FAC 323, FAC 324, FAP 325, FAC 411, FAC 412, FAP 413, FAC 414, FAC 412, FAC 421, FAC 422, FAC 423, FAP 423, FAC 424.

**Bachelor of Arts Degree in Arts and Crafts
Suggested Program (102 Credits)**

Year I of the Foundation Studies

Fall Semester (14 Credits)

FAP	211	Drawing I	3cr.
GDP	212	Design Principles I	3cr.
ARP	213	Basic Technical Skills	3cr.
FAP	214	Performing Arts and Music	3cr.
FAP	215	Art & Culture	2cr.

Spring Semester (14 Credits)

FAP	221	Drawing II	3cr.
GDP	222	Design Principles II	3cr.
ARP	223	Descriptive Geometry	3cr.
GDP	224	Introduction to Photography	3cr.
FAP	225	Conceptual Communication	2cr.

Summer Session is left for remedial courses not completed within the Foundation studies. GER courses could also be taken.

—	—	GER	3 cr.
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Year II

Fall Semester (18 Credits)

FAC	311	Arts & Crafts I	3cr.
FAP	312	Drawing III	3cr.
FAC	313	Technique I	2cr.
FAP	314	Conceptual Visual Thinking I	2cr.
FAP	315	History of Art	3cr.
FAC	316	Studio Art I	2cr.
—	—	GER	3cr.

Spring Semester (16 Credits)

FAC	321	Arts & Crafts II	3cr.
FAP	322	Drawing IV	3cr.
FAC	323	Technique II	2cr.
FAC	324	Studio Art II	2cr.
FAP	325	History of Modern Art	3cr.
—	—	GER	3cr.

Summer Semester (9 Credits)

—	—	GER	3cr.
—	—	GER	3cr.
—	—	GER	3cr.

Year III

Fall Semester (15 Credits)

FAC	411	Arts & Crafts III	3cr.
FAC	412	Multi-Media & Personal Development I	3cr.
FAP	413	Digital Media I for the Fine Artist	2cr.
FAC	414	Studio Work I	2cr.
FAC	415	History of Arts & Crafts	2cr.
—	—	Free Elective	3cr.

Spring Semester (14 Credits)

FAC	421	Arts & Crafts IV	3cr.
FAC	422	Multi-Media & Personal Development II	3cr.
FAC	423	Digital Media II for the Fine Artist	2cr.
FAC	424	Studio Work II	1cr.
FAC	425	Internship	1cr.
—	—	Free Elective	3cr.

Undergraduate Courses: Arts and Crafts

FAC 311 Arts & Crafts I (2.2); 3 cr. An introduction to the surface design of decorative arts and crafts, including fabric dyes, material and techniques used in traditional and non-traditional methods of surface design for ceramics, jewelry, metal-working, leather work, and fiber arts. Japanese, African, Indonesian techniques for tie-dye, batik, paste resist and hand painting on fabric are also studied. Projects emphasize development of personal expression as well as technical proficiency.

FAC 313 Technique I (1.2); 2 cr. This is an overview of traditional and contemporary methods of form making using a variety of materials. Projects explore both technical and conceptual possibilities in two and three-dimensional constructions, and the development of images and ideas.

FAC 316 Studio Art I (1.2); 2 cr. This course addresses all aspects of commercial design production, including different rendering techniques, production standards and terminology, and professional practices for rendering the presentation of designs for crafts, ceramics, jewelry, metal working, leather work, and constructed fiber arts. Students develop a work methodology to design flat patterns from conceptual evolution to final presentation. The development of professional portfolios are encouraged. Students may start using computer aided design.

FAC 321 Arts & Crafts II (2.2); 3 cr. This course focuses on the development of the creative and technical skills necessary to produce a variety of design; including, tooling leather work, embossing and engraving metal surfaces, applying decoration to ceramics, and printing fabrics. Various medias are explored. Students are encouraged to be experimental and inventive in their approach to using the various surfaces available to the decorative arts and crafts. *Prerequisite:* FAC 311.

FAC 323 Technique II (1.2); 2 cr. This course exposes students to the use of the computer as a design tool. Students draw and alter images on the computer as well as develop design units for execution. A number of applications for the

computer-generated designs are investigated, including the production of photo-ready positives for portfolio presentation. *Prerequisite:* FAC 313.

FAC 324 Studio Art II (1.2); 2 cr. This is a studio course in which all the student's works as well as the many areas of professional practice in the field are directed towards a specific career goal. Some of the topics covered are artists statements, curriculum vitae, portfolio preparation, cover letter and contracts. Professionalism in presentation and documentation is emphasized. Students also investigate marketing and merchandising techniques. *Prerequisite:* FAC 316.

FAC 411 Arts & Crafts III (2.2); 3 cr. Students develop skills necessary to translate single graphic images into interconnecting repetitive patterns suitable for use in all commercial and hand-crafted media. *Prerequisite:* FAC 321.

FAC 412 Multi-Media & Personal Development I (2.2); 3 cr. Students research information and artists, which are important to their personal development. With faculty assistance, students define and develop a body of work for the whole semester. An active journal related to the work is required. Mid-semester critiques and final review are also required. *Prerequisite:* FAC 321.

FAC 414 Studio Work I (1.4); 3 cr. Third year students will have access to a small but permanent and private space, where they would spend at least 3 hours per week developing their research and work. A faculty member will meet privately with each student to discuss and critique the development work. Independent studio work is where the student gets a preview of what it feels to work independently in a studio, not guided by a classroom project or a teacher. This is the place to acquire self-motivation while guided for one year by an encouraging faculty member. *Prerequisite:* FAC 321.

FAC 415 History of Arts & Crafts (3.0); 3 cr. An exploration of the beginnings of arts, crafts,

weaving, and, textile printing and their evolution through the Middle ages to the present. This study becomes a source for many individual studio projects.

FAC 421 Arts & Crafts IV (2.2); 3 cr. Traditional and non-traditional techniques are used to develop conceptual and functional ideas. *Prerequisite:* FAC 411.

FAC 422 Multi-Media & Personal Development II (2.2); 3 cr. Students work with faculty to develop a personal body of work that represents depth and breadth of exploration and a maturing sense of aesthetic direction and self-expression. Group and individual discussions

emphasize the development of critical vocabulary along with advanced technical exploration. Students plan and prepare setting up and displaying of their major works. A Journal must be kept along with schedules of exhibition details and plans. *Prerequisite:* FAC 412.

FAC 424 Studio Work II (0.2); 1 cr. This course is a continuation of the previous course FAC 414. *Prerequisite:* FAC 414.

FAC 425 Internship (0.2); 1 cr. Practical training within a professional environment. *Prerequisite:* FAC 411.

The Degree of Master of Arts in Design (MA)

The purpose of the NDU Master of Arts in Design is to prepare students to significantly influence and lead the development of the visual arts and design professions in Lebanon thus contributing to the country's global position and status. The program offers 36 credits in research, theory and studio courses in parallel to the development of a self-initiated thesis or project.

The Master of Arts in Design program allows the student to disengage from the daily pursuit of tasks in their fields that are normally carried out under constraints, and which may limit their exploration of the subject in a holistic sense. Instead, the student is able to look in depth into the history, theory, practice and achievements of design on local, national and international levels.

In addition, the students will utilize a variety of methodologies appropriate to the subject/s under investigation in order to create a basis for further pioneering and exploratory work.

Candidate's Profile

The Master of Arts in Design program is designed for students from the many disciplines that are embraced by the term visual arts and design, who wish to engage in a period of study beyond the bachelor level, and who wish to raise their intellectual and/or professional experience associated with visual arts.

Students with bachelor degrees from other disciplines are invited into the program after they have fulfilled undergraduate requirements of the university admission policy.

Admission Requirements

In addition to the university admission requirements for graduate students, the candidate must submit a portfolio of work for assessment and schedule an interview with MA course faculty.

In addition, applicants for the graduate program may be granted a maximum of nine transfer credits of graduate studies taken at another accredited institution of higher education provided that the transfer course(s) correspond to the NDU course requirements. In order to be accepted into the program, the students must take a minimum of 6 credits per semester as a part-time candidate and 9 credits as a full-time candidate. The maximum number of credits per semester is 12 credits.

Students applying with a bachelor degree outside of design should first fulfill the undergraduate requirements of the university admission policy. Students with a degree from FAAD other than design will have to consult with MA course faculty.

Graduation Requirements

Students seeking the degree of Master of Design must meet the university graduation requirements and complete 36 credits with a cumulative average of at least 3.0/4.0.

**Degree Requirements
(36 Credits)**

**Number of
Credits (cr.)
36 cr.**

Major Courses

MAD 615, MAD 616, MAD 617, MAD 625, MAD 626, MAD 627, MAD 635, MAD 636, MAD 645.

**The Degree of Master of Arts in Design (MA)
Suggested Program (36 Credits)**

Year 1

Fall Semester I (6-12 Credits)

MAD	615	Design Research Methodologies	3cr.
MAD	616	Contemporary Issues in Design	3cr.
MAD	617	Design Studio I	6cr.

Spring Semester I (6-12 Credits)

MAD	625	Design Research Development	3cr.
MAD	626	Cultural Issues in Design	3cr.
MAD	627	Design Studio II	6cr.

Year 2

Fall Semester II (6 Credits)

MAD	635	Thesis I	3cr.
MAD	636	Special Topic	3cr.

Spring Semester II (6 Credits)

MAD	645	Thesis II	6cr.
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Graduate Courses: Arts in Design

MAD 615 Design Research Methodologies (2.2); 3 cr. A survey of current design thinking and research methodologies to aid the student in the development of projects in response to a critical content framework. The course is intended to offer the student support and direction in the formation of the critical thinking that will inform their written and visual solutions. Includes lectures, readings and discussion of contemporary issues in design in social and cultural contexts.

MAD 616 Contemporary Issues in Design (2.2); 3 cr. A seminar in which topics of current relevance to design practice and critical thinking will be explored and analyzed. The course content will change each semester to remain up to date within the profession.

MAD 617 Design Studio I (2.8); 6cr. Design projects in response to the critical content of Contemporary Issues in Design. Includes the role of designed objects in contemporary culture and the effect on society, including interaction with potential audiences. Co-requisite and/or *Prerequisite*: MAD 616.

MAD 625 Design Research Development (2.2); 3 cr. Development of conceptual and analytical skills for the self-initiated design research which will culminate in a written proposal. *Prerequisite*: MAD 615.

MAD 626 Cultural Issues in Design (2.2); 3 cr. A seminar that will consider the relevance of culture to design particularly in the Lebanese

context. An introduction to recent theories in various disciplines concerning cultural understanding of design. The course content will change each semester to remain up to date within the profession. *Prerequisite*: MAD 616.

MAD 627 Design Studio II (2.8); 6 cr. A visual application of the topics and ideas covered in Cultural Issues in Design. The course will be a platform for experimentation and exploration of concepts from the seminars. Focuses on the role of design objects as cultural artifacts and their reflection of social diversity on both designers and audiences. Includes creation, reproduction, distribution and reception of messages. Co-requisite and/or *Prerequisite*: MAD 626.

MAD 635 Thesis I (2.2); 3 cr. This course will support and assist the student in the development and preparation of their research into a comprehensive written document that will complement the visual work to be undertaken in Thesis II. The two components will interrelate to support the theories, hypothesis and conclusion/s. *Prerequisite*: MAD 627.

MAD 636 Special Topic (2.2); 3 cr. This course is given by an invited instructor to explore topics of current interest. *Prerequisite*: MAD 627.

MAD 645 Thesis II (4.4); 6 cr. The course will provide guidance during the development of the visual application of the design thesis. The final outcome should serve as the solution/answer to the written thesis. *Prerequisite*: MAD 635.

Substituted Courses

MAD 611 – Design Research Seminar I; 3 cr. TO MAD 615 Design Research Methodologies; 3 cr.

MAD 612 – Design Research Seminar II; 3 cr. TO MAD 625-Design Research Development; 3 cr.

Music Section

The Degree of Bachelor of Arts in Musicology

A Concentration in Music history theory, and analysis. In addition, students will be proficient on an orchestral instrument.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete all major courses in the music foundation studies with a cumulative average of 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated. All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Musicology and other majors in the Departments of the Faculty of Architecture, Art & Design.

There will also be a practical music test instrument, voice & previous music knowledge to assess each student.

Graduation Requirements

To receive the degree of Bachelor of Arts in Musicology, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 18 cr.

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Foundation Year 27cr.

MUS 211, MUS 222, MUS 223, MUS 224, MUS 214, MUS 221, MUS 284, MUS 231, MUS 232, MUS 233, MUS 234, MUS 244, MUS 235.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements 73cr.

MUS 231, MUS 331, MUS 342, MUS 343, MUS 324, MUM 337, MUS 344, MUA 435, MUA 222, MUS 341, MUS 352, MUS 353, MUS 334, MUE 336, MUS 338, MUS 384, MUS 347, MUS 311, MUE 376, MUS 213, MUS 441, MUS 452, MUS 453, MUS 464, MUS 444, MUS 475, MUS 474, MUS 484, MUS 451, MUS 462, MUS 463, MUM 437, MUS 454, MUS 485, MUA 444.

**Bachelor of Arts in Musicology
Suggested Program (124 Credits)**

Year I

Fall Semester (18 Credits)

MUS	211	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	222	Advanced Theory of Music I	1 cr.
MUS	223	Sight Singing and Ear Training I	1 cr.
MUS	224	History and Analysis of Western Music: Medieval – Baroque Period	3 cr.
MUS	214	Introduction to Musicology	3 cr.
MUS	221	History of Arab Music I	3 cr.
MUS	284	Methodology (research methods) of Music	3 cr.
—	—	English I (GER)	3 cr.

Spring Semester (18 Credits)

MUS	221	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	232	Advanced Theory II	1 cr.
MUS	233	Sight Singing and Ear Training II	1 cr.
MUS	234	History and Analysis of Western Music: Classical Period	3 cr.
MUS	244	Ethnomusicology	3 cr.
MUS	434	Musical Forms	3 cr.
—	—	English II (GER)	3 cr.
—	—	GER	3 cr.

Summer Session (9 Credits)

MUS	424	Lebanese Music I	3 cr.
—	—	GER or Elective	3 cr.
—	—	GER or Elective	3 cr.

Year II

Fall Semester II (18 Credits)

MUS	331	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	342	Harmony I	1 cr.
MUS	343	Sight Singing, Rhythmic Chanting, and Ear Training III	1 cr.
MUS	324	History and Analysis of Western Music: Romantic and Post-Romantic Period	3 cr.
MUM		Musical Languages I: Italian, German, and French	3 cr.
MUS	344	Religious Music (Gregorian, Byzantine, and Syriac)	3 cr.
MUA	435	Lebanese Music II	3 cr.
MUA	222	History of Arab Music II: Renaissance – Contemporary	3 cr.

Spring Semester II (18 Credits)

MUS	341	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	352	Harmony II	1 cr.
MUS	353	Sight Singing, Rhythmic Chanting, and Ear Training IV	1 cr.
MUS	334	History and Analysis of Western Music: 20th Century and Contemporary Music	3 cr.
MUE		Introduction to Music Education	3 cr.
MUS		Arab Music (Theory, Maqamat, Rhythms, Forms)	3 cr.
MUS	384	Research Seminar I	3 cr.
MUM	347	Computer and Music	3 cr.

Summer Session II (8 Credits)

MUS	111	Major Practical Course (Instrumental or Vocal)	½ cr.
MUE	376	Secondary Instrument (Percussion)	½ cr.
MUS	231	Secondary course	1 cr.
		GER or Elective	3 cr.
		GER or Elective	3 cr.

Year III

Fall Semester III (17 Credits)

MUS	441	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	452	Harmony III	1 cr.
MUS	453	Sight Singing, Rhythmic Chanting, and Ear Training V	1 cr.
MUS	464	Special Course	2 cr.
MUS	444	Philology of Music	3 cr.
MUS	374	Acoustics of Music	3 cr.
MUS	474	Music Ensembles	3 cr.
MUS	484	Research Seminar II	3 cr.

Spring Semester III (18 Credits)

MUS	451	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	462	Counterpoint and Fugue	1 cr.
MUS	463	Sight Singing, Rhythmic Chanting, and Ear Training VI	1 cr.
MUM	237	Art Management	3 cr.
MUS	454	Orchestration	3 cr.
MUS	485	Research Seminar III	3 cr.
MUA	—	Andalousian Music	3 cr.
—	—	GER or Elective	3 cr.

Undergraduate Courses: Musicology

MUS 211 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. Prerequisite: Knowledge of 20% of the Latin system or its equivalent.

MUS 214 Introduction to Musicology; 3 cr. A survey of musicology, and its objectives. Relating musicology to other fields.

MUS 218- Arab Prosody. Arab Poetic versification, Speech

MUS 221 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. Prerequisite: MUS 211

MUS 222 Advanced Theory of Music I; 1 cr. Signs used for writing music. The measure its characteristics, rhythm and syncopation, tempo and the nuances of music, intervals, and tonality (including major and minor modes).

MUS 223 Sight Singing and Ear Training I; 1 cr. This course will include ear training and sight singing exercises in the keys of C major, A minor, F major, D minor, G major, and E minor.

MUS 224 History and Analysis of Western Music: Medieval – Baroque Period; 3 cr.

Survey of composers, pieces, and styles of Medieval, Renaissance, and Baroque periods.

MUS 231 Secondary courses; 1 cr. Private lessons with the teacher on the student's major instrument. Prerequisite: MUS 221

MUS 232 Advanced Theory II; 1 cr. The modes (other than the major and minor modes), chords (up to five tone chords), modulation, phrases and the different kinds of cadences, transposition, ornaments and abbreviations, and the contemporary notation. Prerequisite: MUS 222.

MUS 233 Sight Singing and Ear Training II; 1 cr. Sight singing and ear training exercises in keys with up to four alterations. Introduction to the eighth and 16th notes and syncopation, and the cut-time time signature.

MUS 234 History and Analysis of Western Music: Classical Period; 3 cr. Survey of composers, pieces, and styles of the Classical period.

MUS 244 Ethnomusicology; 3 cr. Introduction to music of different cultures and times.

MUS 284 Methodology (research methods) of Music; 3 cr. Introduction to musical sources,

principles of research, research styles, citations, and formatting.

MUS 324 History and Analysis of Western Music: Romantic and Post-Romantic Period; 3 cr. Survey of composers, pieces, and styles of Romantic, and Post-Romantic periods.

MUS 331 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 231

MUS 334 History and Analysis of Western Music: 20th Century and Contemporary Music; 3 cr. Survey of composers, pieces, and styles of 20th Century and Contemporary periods.

MUS 341 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 331.

MUS 342 Harmony I; 1 cr. Three tone chords, cadences, and modulation. Harmonizing short pieces and the dominant seventh chords.

MUS 343 Sight Singing, Rhythmic Chanting, and Ear Training III; 1cr. Sight singing and ear training exercises in keys with up to 6 alterations in the key signature. Introduction to composite measures, and more in depth applications of syncopation.

MUS 344 Religious Music (Gregorian, Byzantine, and Syriac); 3 cr. Survey of Gregorian, Byzantine, and Aramaic chants and their modes.

MUS 352 Harmony II; 1 cr. 9th, 11th, and 13th chords, diminished seventh chords, and altered chords.

MUS 353 Sight Singing, Rhythmic Chanting, and Ear Training IV; 1 cr. Sight singing and ear training exercises in the key of F with advanced rhythms.

MUS 374 Acoustics of Music; 3 cr. Principles of sounds. Science of sound and the process of hearing. The study hall acoustics.

MUS 434 Musical Forms; 3 cr. Genres, styles, forms, structures of music throughout history.

MUS 424 Lebanese Music I; 3 cr. traditional and popular Lebanese music: forms, metrics, modes rythms and instruments.

MUS 435 Lebanese Music II 3 cr. Music of the 2nd half of 20th century

MUS 441 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 341.

MUS 444 Philology of Music; 3 cr. Musical Intelligence, development of musical principles, intervals, and scales. *Prerequisite:* MUS 222, MUS 232, MUS 342, MUS 352.

MUS 451 Major Practical Course (Instrumental or Vocal); 1 cr. Private lessons with the teacher on the student's major instrument. *Prerequisite:* MUS 441.

MUS 452 Harmony III; 1 cr. Retardation, pedal points, passing tones, neighboring tones, anticipation, the appoggiatura, and escape notes.

MUS 453 Sight Singing, Rhythmic Chanting, and Ear Training V; 1 cr. Sight singing and ear training exercises in simple keys with advanced rhythms.

MUS 454 Orchestration; 3 cr. Study of instrumentation and arranging different music to different ensembles. *Prerequisite:* MUS 342, MUS 452, MUS 452.

MUS 462 Counterpoint and Fugue; 1 cr. Writing music for more than one voice in the modal styles of the organum to fugue. *Prerequisite:* MUS 222, MUS 232, MUS 342, MUS, 352.

MUS 463 Sight Singing, Rhythmic Chanting, and Ear Training VI ; 1 cr. Sight singing and ear training exercises in all tonalities, and the C-clef.

MUS 464 Special Course 2 cr.

MUS 474 Music Ensembles; 3 cr. Vocal or instrumental ensemble.

MUS 484 Research Seminar II; 3 cr.
Presentation of a research project under the supervision of the teacher. *Prerequisite:* MUS 284.

MUS 485 Research Seminar III; 3 cr.
Presentation of a research project under the supervision of the teacher. *Prerequisite:* MUS 284.

The Degree of Bachelor of Arts in Music Education

A concentration in the method of music education provides students with the professional qualifications to serve in educational settings.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete all major courses in the music foundation studies with a cumulative average of 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated. All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Music Education and other majors in the Departments of the Faculty of Architecture, Art & Design.

There will also be a practical music test instrument, voice & previous music knowledge to assess each student.

Graduation Requirements

To receive the degree of Bachelor of Arts in Music Education, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 18 cr.

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

Core Requirements

EDU 212, EDU 302, PSL 211, EDU 355, STA 201, EDU 487

Foundation Year

27cr.

MUS 211, MUS 222, MUS 223, MUS 224, MUS 214, MUS 221, MUS 284, MUS 231, MUS 232, MUS 233, MUS 234, MUS 244, MUS 235.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

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.

Major Requirements**73cr.**

MUS 331, MUS 335, MUS 342, MUS 343, MUS 324, MUM 337, MUE 336, MUS 341, MUS 352, MUS 353, MUS 354, MUA 427, MUS 384, MUS 231, MUS 441, MUS 452, MUS 453, MUS446, MUS 474, MUS 475, MUS 447, MUS 451, MUS 462, MUS 463, MUE 476, MUS 484, MUE 456.

**Bachelor of Arts in Music Education
Suggested Program (124 Credits)**

Year I

Fall Semester (18 Credits)

MUS	211	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	222	Advanced Theory of Music I	1 cr.
MUS	223	Sight Singing and Ear Training I	1 cr.
MUS	224	History and Analysis of Western Music: Medieval – Baroque Period	3 cr.
MUS	214	Introduction to Musicology	3 cr.
MUS	—	History of Arab Music I	3 cr.
MUS	284	Methodology (research methods) of Music	3 cr.
—	—	English I (GER)	3 cr.

Spring Semester (18 Credits)

MUS	221	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	232	Advanced Theory II	1 cr.
MUS	233	Sight Singing and Ear Training II	1 cr.
MUS	234	History and Analysis of Western Music: Classical Period	3 cr.
MUS	244	Ethnomusicology	3 cr.
MUS	434	Musical Forms	3 cr.
—	—	English II (GER)	3 cr.
—	—	GER	3 cr.

Summer Session (9 Credits)

MUS	424	Lebanese Music I	3 cr.
—	—	GER or Elective	3 cr.
—	—	GER or Elective	3 cr.

Year II

Fall Semester II (18 Credits)

MUS	331	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	342	Harmony I	1 cr.
MUS	343	Sight Singing, Rhythmic Chanting, and Ear Training III	1 cr.
MUS	324	History and Analysis of Western Music: Romantic and Post-Romantic Period	3 cr.
MUM	337	Musical Languages I: Italian, German, and French	3 cr.
MUE	336	Introduction to Music Education	3 cr.
EDU	212	Sociological Perspective on Schools	3 cr.
EDU	302	Introduction to the Education of the Metally Challenged	3 cr.

Spring Semester II (18 Credits)

MUS	341	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	352	Harmony II	1 cr.
MUS	353	Sight Singing, Rhythmic Chanting, and Ear Training IV	1 cr.
MUS	354	History and Analysis of Western Music: 20th Century and Contemporary Music	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
MUA	427	Arab Music (Theory, Maqamat, Rhythms, Forms)	3 cr.
EDU	355	Methods of Teaching	3 cr.
MUS	384	Research Seminar I	3 cr.

Summer Session II (7 Credits)

MUS	231	Secondary Courses	1 cr.
		GER or Elective	3 cr.
		GER or Elective	3 cr.

Year III

Fall Semester III (18 Credits)

MUS	441	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	452	Harmony III	1 cr.
MUS	453	Sight Singing, Rhythmic Chanting, and Ear Training V	1 cr.
MUS	446	Teaching at Elementary Level	3 cr.
MUS	474	Music Ensembles	3 cr.
MUS	374	Acoustics of Music	3 cr.
MUS	447	Children's Literature or Youth Orchestras	3 cr.
—	—	GER	3 cr.

Spring Semester III (18 Credits)

MUS	451	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	462	Counterpoint and Fugue	1 cr.
MUS	463	Sight Singing, Rhythmic Chanting, and Ear Training VI	1 cr.
STA	201	Statistics for Educational and Social Issues	3 cr.
MUE	476	Teaching at Secondary Level	3 cr.
MUS	484	Research Seminar II	3 cr.
EDU	487	Counseling and Guidance Internship	3 cr.
MUE	456	Philosophy of Music Education	3 cr.

Undergraduate Courses: Music Education

MUE 226 Melodic Educational Instruments (Keyboards); 3 cr. An introduction to the classroom instruments, such as Orff instruments (xylophones, metalophones, and glockenspeil), recorder, guitar, and piano.

MUE 326 Rhythmic Educational Instruments; 1 cr. An introduction to the Remaining percussive classroom instruments, such as the wood-block, claves, maracas, triangle, drum, and tambourine.

MUE 336 Introduction to Music Education; 3 cr. A survey of the various musical education methods, such as the Orff, Dalcroze, Kodaly, Suzuki and other methods.

MUE 346 Philosophy of Music Education; 3 cr. A survey of the different schools of thought in education in general, and particularly in music education.

MUE 376 Secondary Instrument (Percussion); 1 cr. Techniques on how to

perform on percussion instruments. Notation of percussive instruments.

MUE 446 Teaching Music at the Elementary Level; 3 cr. Writing lesson plans appropriate to the elementary level and applying them. Learning teaching methods suitable for the age group (6-11).

MUE 436 Conducting; 3 cr. Conducting techniques for different ensembles.

MUE 447 Children's Literature or Youth Orchestras; 3 cr. A survey of songs, orchestral, band, and ensemble pieces appropriate for the youth.

MUE 476 Teaching Music at the Secondary Level; 3 cr. Writing lesson plans appropriate to the secondary level and applying them. Learning teaching methods suitable for the age group (12-17).

The Degree of Bachelor of Arts in Musimedialogy

An avant-garde perspective combining music to all fields of media. Students will master the art of relaying music information via radio, tv, journalism, and the Internet.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete all major courses in the music foundation studies with a cumulative average of 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated. All remedial courses, Math and/ or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in Musimedialogy and other majors in the Departments of the Faculty of Architecture, Art & Design.

There will also be a practical music test instrument, voice & previous music knowledge to assess each student.

Graduation Requirements

To receive the degree of Bachelor of Arts in Musimedialogy, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER):	18 cr.
Sophomore English: ENL 222 & ENL 236	6 cr
Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc...	6 cr.
Basic Science: Environmental Science, Nutrition, Health, Astronomy, Archeology, Biology, Geology, etc...	6 cr.

Core Requirements

COA 252, PHO 201, COA 202, JOU 410, COA 352, JOU 370, JOU 450, JOU 310, JOU 480.

Foundation Year

MUS 211, MUS 222, MUS 223, MUS 224, MUS 214, MUS 221, MUS 284, MUS 231, MUS 232, MUS 233, MUS 234, MUS 244, MUS 235.

The student must complete all Foundation courses with a grade of 2.3/4.0 or above. Students who fail to meet the above requirements will be asked to repeat the Foundation Studies for only one additional year or change the major.

Free Electives

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.

27cr.

6 cr

Major Requirements**73cr.**

MUS 331, MUS 335, MUS 342, MUS 343, MUS 324, MUM 337, MUS 341,
MUS 352, MUS 353, MUS 334, MUA 232, MUE 376, MUS 231, MUS 441,
MUS 453, MUS 447, MUS 226, MUS 434, MUA 427, MUM 457, MUS 490,
MUM 437.

Bachelor of Arts in Musimediology
Suggested Program (124 Credits)

Year I

Fall Semester (18 Credits)

MUS	211	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	222	Advanced Theory of Music I	1 cr.
MUS	223	Sight Singing and Ear Training I	1 cr.
MUS	224	History and Analysis of Western Music: Medieval – Baroque Period	3 cr.
MUS	214	Introduction to Musicology	3 cr.
MUS	2__	History of Arab Music I	3 cr.
MUS	284	Methodology (research methods) of Music	3 cr.
—	—	English I (GER)	3 cr.

Spring Semester (18 Credits)

MUS	221	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	232	Advanced Theory II	1 cr.
MUS	233	Sight Singing and Ear Training II	1 cr.
MUS	234	History and Analysis of Western Music: Classical Period	3 cr.
MUS	244	Ethnomusicology	3 cr.
MUS	434	Musical Forms	3 cr.
—	—	English II (GER)	3 cr.
—	—	GER	3 cr.

Summer Session (9 Credits)

MUS	424	Lebanese Music I	3 cr.
—	—	GER or Elective	3 cr.
—	—	GER or Elective	3 cr.

Year II

Fall Semester II (18 Credits)

MUS	331	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	342	Harmony I	1 cr.
MUS	343	Sight Singing, Rhythmic Chanting, and Ear Training III	1 cr.
MUS	324	History and Analysis of Western Music: Romantic and Post-Romantic Period	3 cr.
COA	252	Principles of Public Relations	3 cr.
PHO	201	Photography	3 cr.
COA	202	Mass Media Essentials	3 cr.
—	—	GER or Elective	3 cr.

Spring Semester II (18 Credits)

MUS	341	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	352	Harmony II	1 cr.
MUS	353	Sight Singing, Rhythmic Chanting, and Ear Training IV	1 cr.
MUS	334	History and Analysis of Western Music: 20th Century and Contemporary Music	3 cr.
MUM	337	Musical Languages: Italian, German and French	3 cr.
MUA	232	Arab Music (Theory, Maqamat, Rhythms, Forms)	3 cr.
JOU	410	Newswriting and Reporting II	3 cr.
COA	352	Mass Media Law (Arabic)	3 cr.

Summer Session II (8 Credits)

MUE	376	Secondary Instrument (Percussion)	1 cr.
MUS	231	Major Practical Course (Instrumental or Vocal)	1 cr.
		GER or Elective	3 cr.
		GER or Elective	3 cr.

Year III

Fall Semester III (17 Credits)

MUS	441	Major Practical Course (Instrumental or Vocal)	1 cr.
MUS	453	Sight Singing, Rhythmic Chanting, and Ear Training V	1 cr.
MUS	447	Musical Criticism	3 cr.
JOU	370	Newspaper production	3 cr.
JOU		Specialized Journalism	3 cr.
MUS	226	Religious Music (Syriac, Byzantine, Gregorian)	3 cr.
JOU	310	Newswriting and Reporting I	3 cr.

Spring Semester III (18 Credits)

JOU	480	Journalism Internship	1 cr.
MUS	434	Musical Forms	2 cr.
MUA	427	Lebanese Music II	3 cr.
MUM	457	Radio and Television Music Casting	3 cr.
MUS	490	Senior Project	3 cr.
MUS	244	Ethnomusicology	3 cr.
—	—	Elective	3 cr.

Undergraduate Courses: Musimedialogy

MUM 237 Art Management; 3 cr. Deals with the business aspect of the arts. Such as selecting suitable musical acts for performances, providing the venue, selecting the program, promoting the act, and selling the tickets.

MUM 447 Musical Criticism; 3 cr. Writing musical critiques, reviews, and previews, of musical events.

MUM 457 Radio and Television Music Casting; 3 cr. Performing critiques, reviews,

and previews of musical events, live or taped on the radio or the television.

MUM 337 Musical Languages I: Italian, German, and French; 3 cr. Musical terminology in its context.

MUM 347 Computer and Music; 3 cr. Introduction to different musical notation and MIDI programs.

The Degree of Bachelor of Arts in Arabic Music

بكالوريوس في العلوم الموسيقية العربية تُعطى في اللغة العربية

A concentration in the different schools in Arabic Music, from Alfarabi to nowadays. Students will be proficient on an oriental instrument.

Admission Requirements

In addition to the University admission requirements, prospective candidates must complete all major courses in the music foundation studies with a cumulative average of 2.3/4.0 grade or above. In addition all major courses with a grade of less than C- must be repeated. All remedial courses, Math and/or English must be completed prior to entering the major courses. Students who fail to meet the above requirements will not be allowed to proceed to the degree courses in ArabMusicology and other majors in the Departments of the Faculty of Architecture, Art & Design.

There will also be a practical music test instrument, voice & previous music knowledge to assess each student.

Graduation Requirements

To receive the degree of Bachelor of Arts in Arab Musicology, a student must complete a total of 124 credits with a minimum cumulative grade point average of 2.3/4.0 in all Major Courses. Any major course with a grade of less than C- must be repeated. The 124 credits necessary for graduation are divided as follows:

Degree Requirements (124 credits)

General Education Requirements (GER): 18 cr.

Sophomore English: ENL 222 & ENL 236 6 cr

Cultural Studies: Religion + Arabic, Western Literature, Philosophy, Cultural Sequence, Art, Music, etc... 6 cr.

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

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.

Major Requirements 100cr.

MUS 211, MUS 221, MUS 222, MUS 223, MUA 228, MUS 214, MUA 224, MUA 218, MUA 219, MUS 233, MUA 238, MUA 222, MUA 234, MUS 231, MUA 244, MUA 272, MUS 436, MUS 331, MUS 232, MUA 328, MUA 332, MUA 324, MUA 318, MUS 244, MUS 374, MUS 341, MUS 342, MUA 334, MUE 335, MUS 344, MUA 348, MUS 224, MUS 441, MUS 343, MUA 428, MUA 424, MUS 324, MUS 444, MUA 478, MUM 337, MUS 451, MUS 352, MUA 453, MUA 444, MUA 458, MUA 488, MUA 434.

Bachelor of Arts in Arabic Music
Suggested Program (102 Credits)

Year I

Fall Semester (18 credits)

MUS	221	Major Practical Course (برنامج رئيسي: صوت أو آلة أو تأليف)	1cr.
MUS	222	Advanced Theory I (نظريات الموسيقى العالمية)	1cr.
MUS	223	Sight Singing and Ear Training I (صولفيج الموسيقى العالمية واملأوها)	1cr.
MUA	228	Secondary course (برنامج ثانوي)	1cr.
MUS	214	Introduction to Musicology (مقدمة الى الموسيقى)	3cr.
MUA	224	History and Analysis of Arab Music I (تاريخ وتحليل الموسيقى العربية ما قبل الاسلام)	3cr.
MUA	218	Arab Prosody (علم العروض)	2cr.
—	—	English I (GER)	3cr.
MUA	—	Introduction to Arabic Music (مدخل الى الموسيقى العربية)	3cr.

Spring Semester (18 credits)

MUS	221	Major Practical Course (برنامج رئيسي: صوت أو آلة أو تأليف)	1cr.
MUS	233	Sight Singing and Ear Training II (صولفيج واملأء الموسيقى العالمية)	1cr.
MUA	238	Secondary Course (برنامج ثانوي)	1cr.
MUA	222	Arab Music Theory (نظريات الموسيقى العربية)	3cr.
MUA	234	History and Analysis of Arab Music II (تاريخ وتحليل الموسيقى العربية ٢)	3cr.
MUA	228	Qoran Chanting (الانشاد القرآني)	3cr.
—	—	English II (GER)	3cr.
—	—	Elective (GER)	3cr.

Summer Session (8 credits)

MUS	231	Major Practical Course (برنامج رئيسي: صوت أو آلة أو تأليف)	1cr.
MUA	244	Arab Music Forms (اشكال الموسيقى العربية)	2cr.
MUS	436	Lebanese Music I (الموسيقى اللبنانية)	2cr.
—	—	(GER)	3cr.

Year II

Fall Semester (18 credits)

MUS	331	Major Practical Course (برنامج رئيسي: صوت أو آلة أو تأليف)	1cr.
MUS	232	Theory II (نظريات الموسيقى العالمية)	1cr.
MUA	328	Secondary Course (برنامج ثانوي)	1cr.
MUA	332	Arab Music Theory (نظريات الموسيقى العربية)	3cr.
MUA	324	History and Analysis of Arab Music III (تاريخ الموسيقى العربية العربية ٣)	3cr.
MUA	318	Music Appreciation (تذوق الموسيقى)	3cr.
MUS	244	Ethnomusicology (موسيقى الشعوب)	3cr.
MUS	374	Acoustics of Music (علم وفيزياء الصوت)	3cr.

Spring Semester (18 credits)

MUS	341	Major Practical Course (برنامج رئيسي: صوت أو آلة أو تأليف)	1cr.
MUS	342	Music Theory III (نظريات الموسيقى العالمية)	1cr.
MUA	338	Secondary Course (برنامج ثانوي)	1cr.
MUA	342	Arab Music Theory (نظريات الموسيقى العربية)	3cr.
MUA	334	History and Analysis of Arab Music IV (تاريخ وتحليل الموسيقى العربية ٤)	3cr.
MUE	335	Music Education (التربية الموسيقية)	3cr.
MUS	344	Religious Music (Gregorian, Byzantine, and Syriac) (الالحن السريانية، البيزنطية والغرغورية)	3cr.
—	—	(GER)	3cr.

Summer Session (9 credits)

MUA	348	Secondary Course (برنامج ثانوي)	1cr.
MUS	224	History and Analysis of Western Music: Medieval- Renaissance- Baroque (تاريخ الموسيقى (العالمية: عصور النهضة، الكلاسيك والباروك)	2cr.
—	—	(GER)	3cr.
—	—	(GER)	3cr.

Year III**Fall Semester (18 credits)**

MUS	441	Major Practical Course (برنامج رئيسي: صوت او آلة او تأليف)	1cr.
MUS	343	Sight Singing and Ear Training III (الصولفيج)	1cr.
MUA	428	Secondary course (برنامج ثانوي)	1cr.
MUA	424	History and Analysis of Arab Music V (اربخ الموسيقى العالمية: الحقيتان الرومانسية والمعاصرة)	3cr.
MUS	324	History and Analysis of Western Music: Romantic and Post-Romantic (تاريخ وتحليل (الموسيقى العربية ه	3cr.
MUS	444	Philology of Music (اللغات الموسيقية)	3cr.
MUA	478	Research Project under supervision of instructor. (بحث علمي باشراف الاستاذ)	3cr.
MUM	337	Musical Languages: Italian, French, German (لغات موسيقية: ايطالية، فرنسية، المانية)	3cr.

Spring Semester (17 credits)

MUS	451	Major Practical Course (برنامج رئيسي: صوت او آلة او تأليف)	1cr.
MUS	352	Harmony I (علم التوافق: الهارموني)	1cr.
MUA	453	Sight Singing and Ear Training of Arab Music (الصولفيج)	1cr.
MUA	444	History and Analysis of Arab Music VI (تاريخ وتحليل الموسيقى العربية ٦)	3cr.
MUA	458	Arab Musical Instruments (صناعة الآلات العربية)	3cr.
MUA	488	Research Project under supervision of instructor (بحث علمي باشراف الاستاذ)	2cr.
MUA	434	Musical Forms (الاشكال الموسيقية الغربية)	3cr.
—	—	(GER)	3cr.

Undergraduate Courses: Musimedialogy

MUA 224- History and Analysis of Arab Music I. Beginning of Islam until mid 9th century (3.0); 3cr.

MUA 234- History and Analysis of Arab Music II. Al-Kindy, Andalusian music (3.0); 3cr.

MUA 324- History and Analysis of Arab Music III. Al-Farabi (3.0); 3cr.

MUA 334- History and Analysis of Arab Music IV. Ibn Sina, Al-Ikhawan Al-Safa, Ibn Rushd (3.0); 3cr.

MUA 424- History and Analysis of Arab Music V. Cairo Congress 1932, Michael Moushaqa (3.0); 3cr.

MUA 444- History and Analysis of Arab Music VI. Arab Renaissance-Modern Arab Music (3.0); 3cr.

MUA 219- Introduction to Arab Music. Different type of arab music in history (3.0); 3cr.

MUA 318- Music Appreciation. Understanding music in relation with schools of arts (3.0); 3cr.

MUA 458- Arab Musical Instruments. Manufacture and Evolution through history of music instruments (3.0); 3cr.

**FACULTY OF
BUSINESS
ADMINISTRATION
AND ECONOMICS
(FBAE)**

Dr. Antoine Karam, *Dean*

DEPARTMENT OF ACCOUNTING, FINANCE
AND ECONOMICS

Mr. Antoine Khalil, *Chairperson*

DEPARTMENT OF MANAGEMENT AND MARKETING

Dr. Rashid Saber, *Chairperson*

DEPARTMENT OF HOTEL MANAGEMENT AND
TOURISM

Mr. Youssef Zgheib, *Chairperson*

FACULTY DIRECTORY

Office of the Dean

HB Building, 2nd Floor, Room B 330
Tel: 09–218950/51/52, Extension 2488
Email: akaram@ndu.edu.lb

Department of Accounting, Finance and Economics

HB Building, 2nd Floor, Room B 334
Tel: 09–218950/51/52, Extension 2489
Email: tkhalil@ndu.edu.lb

Department of Management and Marketing

HB Building, 2nd Floor, Room B 338
Tel: 09–218950/51/52, Extension 2482
Email: rsaber@ndu.edu.lb

Department of Hotel Management and Tourism

HB Building, 2nd Floor, Room B 341
Tel: 09–218950/51/52, Extension 2486
Email: yzgheib@ndu.edu.lb

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

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

LIST OF FULL-TIME FACULTY MEMBERS

Associate Professors

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

Assistant Professors

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

Khoueiri, Roy, M.A., 1983, *Economics*, Syracuse University, USA

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

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

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

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

Naimy, Viviane, Doctorate, 2001, *Economics*, University Paris XI, FRANCE

Torbey, Violet M., Ph.D., 1996, *Finance*, Pennsylvania State University, USA

Senior Lecturers

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

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

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

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

Hasham, Elham, D.E.A., 1997, *Business Management*, USEK

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

Kassis, Tanios, M.A., 1995, *Hospitality Management*, IMMI Cornell University/Essex, France

Instructors

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

Akhras, Caroline, M.B.A., 1989, *Management*, American University of Beirut, Lebanon

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

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

List of Staff Members

Azar, Najat, *Administrative Assistant*

Habchi, Carole, *Secretary*

Karaoun, Lucy, *Secretary*

Tohme, Nidale, *Secretary*

Khalil, Rita, *Clerk*

FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS

Dean: *Dr. Antoine Karam*

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:

- Department of Accounting, Finance and Economics
- Department of Management and Marketing
- Department of Hotel Management and Tourism

The Department of Accounting, Finance and Economics offers programs leading to the degrees of Bachelor of Business Administration with emphasis on:

- Accounting
- Banking and Finance
- Economics

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

- Management
- International Business Management
- Marketing

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

The Department of Management and Marketing also offers a program leading to the degree of Master of Business Administration (M.B.A.).

The Master's degree follows a two-year full-time program or its equivalent in part-time work.

The Department of Hotel Management and Tourism offers a program leading to the degree of Bachelor of Hotel Management and Tourism. This degree is a three-year and two-summer program of full-time study.

Undergraduate Degrees

Admission Procedures and Requirements

For admission procedures and requirements to the undergraduate degree programs offered by the Faculty of Business Administration and Economics, see the appropriate page numbers in this catalog.

Registration Procedure

For registration procedure for newly admitted and old students, late registration, course load, withdrawal from courses, and change of courses, see the appropriate page numbers in this catalog.

Undergraduate Degree Curricula

I. Bachelor of Business Administration (B.B.A.)

All candidates for the degrees offered by the Department of Accounting, Finance and Economics and the Department of Management and Marketing must satisfy the following curricula:

A- General Education Requirements

It is strongly believed that graduating business students should have a well-rounded education irrespective of their area of study. For this reason all candidates for a Bachelor's degree must complete a set of courses chosen from a wide range of academic disciplines: religion, English, environmental science, Arabic, computer science, psychology, sociology, history, and political science. The purpose of these courses is to provide basic skills which are essential to success, to clear communication orally and in writing, and to the breadth and depth of education.

B- Required Common courses

All candidates for the B.B.A. degree, irrespective of their area of concentration, must complete the following required common courses. These courses are designed to provide business students with basic management skills - quantitative, behavioral, and technical - which every manager should possess in order to meet the demanding requirements of modern business organizations and to be able to face new challenges. The courses are:

ACO	201	Principles of Accounting I ¹
ACO	202	Principles of Accounting II ¹
ACO	311	Managerial Accounting ²
BAD	201	Fundamentals of Management
BAD	311	Business Law
BAD	313	Managerial Economics
BAD	323	Software Tools for Bus. Application
BAD	453	e-Business
BAF	311	Principles of Financial Management I ¹
ECN	211	Principles of Microeconomics ¹
ECN	212	Principles of Macroeconomics ¹
MRK	201	Fundamentals of Marketing
STA	206	Applied Statistics for Bus. and Eco. I
STA	207	Applied Statistics for Bus. and Eco. II
MAT	204	Math for Business and Economics I
MAT	205	Math for Business and Economics II

C- Concentration Requirements

Those B.B.A. candidates should complete certain concentration courses specified by their respective departments. Together with the common required courses, these courses provide some depth in one particular area of business. For the courses required for each concentration, see the concerned degree requirements.

D- Free Electives

Business students have the opportunity to choose six credits offered by any Faculty to satisfy their non-business interests, diversify their background, and even be of additional business knowledge.

Internship Program

Internship provides an opportunity for business majors to test and utilize theories learned in the classroom. It gives valuable on-the-job experience, and facilitates finding employment. The internship should be related to the students' majors, and should consist of a specific project. Seniors are placed in the offices of cooperating firms under the supervision of staff of the firm. The student earns 1 credit. To earn this credit, the intern should work for at least 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.

¹ Minimum passing grade is C.

² Not required from majors in the Marketing and Management Department. Instead, it is substituted with BAD 433 as shown below.

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 1992. It was revised and approved in June 2002 to be effective for the Fall semester 2002. 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. Starting with the Fall 2002, the MBA Program offers the possibility of choosing among two concentration areas: Finance and Management. 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.

Instructional methods include regular lectures, seminars, case studies, field work, and lectures by guest speakers.

Although the graduate program is designed as a terminal degree program, the graduates are well prepared to pursue higher degrees in business and finance.

Admission Procedure

For admission procedures to the graduate degree program offered by the Faculty of Business Administration and Economics, see the appropriate page numbers in this catalog.

Admission Requirements

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 include:

- 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.
- 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 remedial courses whose credits *are not counted* toward the MBA graduation. While the old MBA Program required the following courses (some of them may be waived upon the recommendation of the Faculty Curriculum Committee): ACO 201, ACO 202, BAD 201, BAF 311, ECN 211, ECN 212, MAT 204, MRK 201, STA 206, STA 207, the newly-revised MBA program has condensed the remedial courses for qualified students into the following five courses: ACO 500, BAF 500, ECN 500, BAD 500, STA 500. as described below.

Registration Procedure

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

Graduate Degree Curricula

Starting with Fall 2002, candidates for the M.B.A. degree can pursue either a general MBA (with thesis, non-thesis options) or an MBA with a concentration area in Finance or Management (with thesis, non-thesis options). For the non-thesis option, the student should complete 36 semester hours of regular course work plus a 3-credit research project. For the thesis option, the student should complete 33 semester hours of regular course work plus a six-credit thesis.

¹ Information about the exact dates of the exam, fees, testing location, and a test registration form can be obtained from AMIDEAST (Beirut Central District, Bazerkan Building, 1st floor, Nijmeh Square, Tel. 01-989901; website:www.amideast.org Email:lebanon@amideast.org. 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.

Students whose undergraduate work does not include mathematics, computer science, engineering and statistics will be required to make up these deficiencies and take the appropriate math courses and get a grade of at least “C”. The credits earned for these courses will not be counted towards the credits required to obtain the MBA.

Academic Rules and Regulations

For complete and detailed information regarding academic rules and regulations of the graduate degree programs, students should refer to corresponding pages in this catalog. The following additions and amendments pertain to the Faculty of Business Administration and Economics.

It is the responsibility of the graduate student to read and observe the academic rules and regulations set by the University and the Faculty. Ignorance of a rule or a regulation is not a justification for not applying that rule.

Course Load

The maximum course load for a full-time student is 12 credits per semester and for a part-time student 6 credits.

Academic Advisor

Each graduate student shall be assigned an academic advisor to assist him/her in the preparation of the plan of study and in selecting a supervisor for his/her thesis. However, it is the student’s ultimate responsibility to insure that all graduation requirements are met.

Repeating Graduate Courses

A graduate course may be repeated only once. In the calculation of the student’s cumulative GPA, only the higher grade is considered.

Dismissal from the Graduate Program

A graduate student will be dismissed from the program for one of the following reasons:

- Failure to remove probation at the end of the semester that follows the placement on probation.
- Getting two “F”s or three grades below “B”.
- Failing the research project or the thesis defense twice.

DEPARTMENT OF ACCOUNTING, FINANCE AND ECONOMICS

Chairperson: *Mr. Antoine Khalil*

Secretary: *Mrs Carole Habchi*

Associate Professors

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

Economics

Assistant Professors

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

Finance

Khoueiri, Roy, M.A., 1983, Syracuse University, USA

Economics

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

Accounting and Finance

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

Economics

Naimy, Viviane, Ph.D., 2001, Université de Paris, France

Torbey, Violet, Ph. D., 1996, Pennsylvania State University, USA

Finance

Senior Lecturers

Hovivian, Hrair, M.S., 1984, Beirut University College, Lebanon

Finance and Economics

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

Accounting

Designing a professional BBA program at the Department of Finance, Accounting, and Economics (DAFE)

It is somewhat difficult to suggest a typical three years and a half program in Business, because each student's program should be specifically tailored to his or her needs and interest. This revised program in the DAFE lends itself easily to a certain degree of specialization, as is the recent trend with an increasing number of American Universities. Students considering graduate work in business, computer, law or engineering will find the training received in any of the different BBA degrees to be quite valuable.

In Accounting, Finance, and Economics, the Department offers major Business/Economics elective courses for students who want to deepen and sharpen the focus of their major. In addition, students can pursue their course / job interest by working with their respective advisors on choosing faculty elective courses in the following areas: General Finance, Investment, Corporate Finance, Banking, Real Estate Finance, Financial Planning, Accounting Information Systems, General Accounting, Management Accounting and Control Auditing and Economics.

Graduate schools of business are now primarily looking for students' background that focuses on both writing and quantitative skills. Thus an appropriate business program would balance liberal arts and business contents, and the judicious use of mathematical concepts, methods, and techniques. The DFAE business curriculum provides such a program.

Not all courses listed in the suggested program below will necessarily be offered in any given semester, or year. New courses will be gradually offered when appropriate and when the human resource needs are secured.

In the required common courses below, a new course, E-Business, is now added, a course which is a must for any business curriculum in these days. Also two Math courses for Business and Economics have been added because, as experience has shown, many of our incoming students are ill-prepared in Math.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration – Finance, Accounting or 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 major requirements. These 106 credits are divided into: General Education Requirements, Common Core Requirements, Major Requirements, Free Electives. In addition, the passing grade for Principles of Accounting I and II, Principles of Microeconomics and Macroeconomics, and Principles of Financial Management I, is “C”. The passing grade for remedial Math courses is “D”.

Admissions Requirements

Applicants must pass the Lebanese Baccalaureate Part II (Any Strand) or its equivalent as identified by the Lebanese Ministry of Education. They are required to sit for an English Entrance Test (EET) or TOEFL. Mathematics Entrance Exam Test is required from all High School students. However, Life Science, General Science and Socio - Economy students will not be given remedial Math course(s). However Humanities and students graduating from Technical Schools, and upon the Entrance Exam results may be assigned MAT 001 and / or MAT 100 and / or MAT 105 by the Admissions Committee in light of their scores on the Math entrance exam.

Bachelor Degree of Business Administration (BBA)

Objectives

The purpose of the Bachelor of Business Administration BBA is to provide students with the skills necessary to meet the Business demands of the future in a variety of organizational settings. Specifically, a graduate of this major should be able to:

- Develop initial thinking, analytical, problem solving, and decision making skills.
- Develop human relation skills and successfully apply those skills to a variety of business situations.
- Evaluate and use professional literature.
- Understand the international arena and its place in current business environment.
- Know the components of continuous business process improvement.

- Increase individual knowledge and understanding of self and other in the work environment.
- Develop the ability to plan, organize, direct and control within an organizational environment.
- Understand how modern business functions.
- Develop specific business skills (e.g. Economics, Accounting, Finance, etc...) critical to effective and efficient management.

General Description

A degree in Bachelor of Business Administration in the Department of Finance, Accounting & Economics requires 106 credit hours. No minor or second major is required. A common body of knowledge is required of all students majoring in the Department of Finance, Accounting & Economics. Students are required to supplement the required courses with a number of Business and non-business elective courses. By carefully selecting these elective courses, students may develop a program of study that fits with their interests and career preparation needs. In order to maximize the benefits of their program, students are strongly encouraged to work closely with their assigned advisor in developing their program of study.

If students are unsure of career goals, as a Business Administration student you will have an opportunity to take a variety of business courses to see what type of work might appeal to you most.

Career Opportunities

The career opportunities for Finance, Accounting & Economics majors are varied and challenging. The program of study prepares graduates for decision – making positions in both the public and private sectors. So many graduates accept positions within the banking industry, including local and industrial commercial banks and governmental agencies. The majority of these opportunities require indepth knowledge of finance and a solid foundation in analytical and communication skills. Graduates have also found career opportunities with major corporations and private enterprises here in Lebanon and specially in the Gulf countries. Below are just a few of the careers from which students may choose:

Finance	Accounting	Economics
<ul style="list-style-type: none"> • Corporate Financial Manager • Commercial Bank Officer • Financial Planner • Management Consultant • Financial Analyst • Investment Manager • Bank Examiner • Credit Analyst • Loan Officer • Real Estate Appraiser and Broker • Estate Management 	<ul style="list-style-type: none"> • Corporate Accountant • Public Accountant • Tax Accountant • Auditor • Accountant Consultant • Tax Reporter and Planner • Accounting System Designers • Accounting System Auditors • Industrial Accountants 	<ul style="list-style-type: none"> • Economics Department of Large Corporations • Government and Government Agencies; Departments of treasury, agriculture and labor • Career in Financial Institutions • Career in Research and Consulting Firms • Career in the Central Bank as bank examiner and the Public Sector inside and outside

Officer <ul style="list-style-type: none"> • Real Estate Developer • Real Estate Consultant • Stockbroker • Mortgage lending • Insurance: sales representative • Securities: sales representative • Investment counselors 		Lebanon such as Foreign Service
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Activities

Faculty at the Department of Finance, Accounting & Economics believe it is important to expose you to a variety of practical and theoretical aspects of business, then give you an opportunity to apply your newly gained knowledge in business situations.

For that reason, the Department along with the Student Affairs Office, sponsor student organizations. In addition the Department uses faculty help to place students in internships, and invites visiting executives and scholars to campus.

Being involved in organizations will allow students to plan, budget and share responsibilities for projects and events. You can learn to manage meetings, deal with conflict, motivate peers of different personalities, express opinions and follow through to the last detail. Student organizations also provide the opportunity to start networking with business professionals and to meet students with similar interests.

As students progress in their studies, they will participate in an internship. Internships give students an opportunity to apply classroom knowledge in a variety of part-time, business – related jobs. Students might be placed in an entry – level position in a bank, corporation or insurance company. Following graduation, some students find full-time positions with the companies that sponsor their internships.

General Education Requirements

27 cr.

CSC 201, REG 212 or REG 213, ARB 211 or ARB 231, ENL 222, ENL 235, and two courses (6 cr.) from the following: ENS 201, NTR 201, ENS 202, ENS 206, HEA 201, BIO 202, BIO 203, AST 201

Choose two (2) courses from the following

HIT 211, HUT 305 or HUT 306, PHL 311, POS 201, PSL 201, SOL 201

Required Common Courses

48 cr.

ACO 201¹, ACO 202¹, ACO 311, BAD 201, BAD 311, BAD 313, BAD 323, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, MRK 201, MAT 204, MAT 205, STA 206, STA 207

¹ Passing grade is “C”

The Degree of Bachelor of Business Administration - Finance

The major in Finance is designed to develop an understanding of the financial aspects of the contemporary economy, the operations of financial institutions and markets, and the financial management of business operations. The major develop analytical skills in the planning, management and control of financial resources to achieve the financial goals of the organization. Central to this task is the evaluation of the risk and return consequences of finance decisions. The major financial decisions studied are selection of assets, (equipment, buildings, inventories, securities, etc,...) and among financing alternatives (selling stock, borrowing from a bank, issuing bonds, etc...)

Finance majors will become familiar with computer applications in finance, and will know how to access and utilize financial information; they are increasingly taking and passing the Chartered Financial Analysts (CFA) examination and the Certified Financial Planner (CFP) examination. The program in Finance and related fields provide the practical and theoretical background needed to succeed in the dynamic and fascinating world of domestic and international finance.

Degree Requirements (106 credits)

General Education Requirements 27 cr.

Required Common Courses 48 cr.

Major Requirements 25 cr.

BAF 312, BAF 315, BAF 321, BAF 433, BAF 438, BAF 450, BAF 481

Choose two (2) Faculty Elective Courses from the following

BAF 317, BAF 319, BAF 325, BAF 352, BAF 421, BAF 452, BAF 444, BAF 461, BAF 485, ACS 310, ECN 313, ACO 411, BAD 425, ECN 431, ECN 435

Free Electives 6 cr.

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

The Finance major highlights six (6) areas where students, along with their respective advisors, can develop their business elective courses in a way to meet their potential job / career requirements. The following six areas are:

- Investments Management
- Corporate Finance
- Real Estate Finance
- Banking
- Financial Planning
- General Finance

All Banking & Finance majors must complete an Internship course which provides field experience prior to graduation.

Investment Management has been revolutionized by rapid advances in computerization. Modern investment theory of portfolio selection, asset pricing models, pricing of options and other derivative securities, and views on the efficiency of security markets have contributed to major improvements in investment management practice.

Other Finance majors can choose the elective courses to meet the requirements of career such as Corporate Finance. Corporate financial officers oversee the efficient allocation of funds within enterprises and borrow funds on the most favorable terms possible through banks, corporate commercial papers, bonds, or new stock issue. Corporate financial managers examine corporate policies toward dividends, debt leverage, and agency conflicts between firm stakeholders.

The *Real Estate* (RE) courses deal with the acquisition, ownership and management of real assets such as shopping centers, office building, industrial parks, and housing. Majors acquire broad, multidisciplinary background designed to make them effective in controlling assets with significant wealth. Knowledge of financial management is initial to the success of any real estate activity – brokerage, development, property management or mortgage lending. Throughout the various areas of real estate and finance there exists a natural interrelationship between the two disciplines.

The Real Estate major prepares students for a broad range of international careers in consulting, trust and estate management, appraisal, brokerage, real estate development and government.

The banking industry has undergone massive transformations due to competition from non-bank financial institutions. The Banking area of interest is established to provide the Banking community with timely Research and source of new employees who recognize the specialized needs of financial institutions and the banking industry.

NDU banking courses provide students with the necessary qualifications and preparation to meet the industry new demands. NDU students, with their knowledge of more than one language, are ideally qualified for employment in international banking. Banking and Finance graduates assume increasingly responsible positions over time and move up the management ranks.

Financial services is one of the most rapidly growing and dynamic fields in finance. It includes Banking, Securities, Insurance and Personal Financial Planning. *Personal*

Financial Planning is a new service industry which has sprung from its insurance, securities and banking roots to become an important link between a variety of individuals and businesses and the broad spectrum of finance information. Students interested in working directly with people to organize their finances and plan for their financial futures should consider a major in Personal Financial Planning. Students need to know about all areas of business and finance and they must be able to deal with quantitative measures and information, as well as understand sophisticated theoretical concepts.

In the *General Finance* field, students can choose courses among several courses. By carefully selecting these courses, students may develop a program of study that fits with their interests and career preparation needs. In order to maximize the benefit of their programs, students are strongly encouraged to work closely with their assigned advisor in developing their program of study.

**Bachelor of Business Administration - Finance
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

ACO	201	Principles of Accounting I (CCR)	3 cr.
BAD	201	Fundamentals of Management (CCR)	3 cr.
CSC	201	Computers and their use (GER)	3 cr.
MAT	204	Math for Business & Economics I (CCR)	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.

Spring Semester I (15 cr.)

ACO	202	Principles of Accounting II (CCR)	3 cr.
ECN	212	Principles of Macroeconomics (CCR)	3 cr.
MAT	205	Math for Business & Economics II (CCR)	3 cr.
STA	206	Applied Statistics for Bus. & Econ. I (CCR)	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.

Summer Module I (6 cr.)

MRK	201	Fundamentals of Marketing (CCR)	3 cr.
ECN	211	Principles of Microeconomics (CCR)	3 cr.

Fall Semester II (15 cr.)

BAF	311	Principles of Financial Management I (CRR)	3 cr.
STA	207	Applied Statistics for Bus. & Econ. II (CCR)	3 cr.
BAD	323	Software Tools for Business Application (CCR)	3 cr.
ARB	211	Appreciation of Arabic Literature (GER)	3 cr.
or			
ARB	231	Technical Arabic (GER)	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.

Spring Semester II (15 cr.)

BAF	312	Principles of Financial Management II (MR)	3 cr.
BAF	315	Financial Institutions & Markets (MR)	3 cr.
BAD	313	Managerial Economics (CCR)	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	(GER)	3 cr.

Summer Module II (9 cr.)

BAD	311	Business Law (CCR)	3 cr.
BAF	321	Fundamentals of Investments (MR)	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 cr.)

ACO	311	Managerial Accounting (CCR)	3 cr.
BAF	433	International Business Finance (MR)	3 cr.
—	—	Faculty Elective	3 cr.
—	—	Faculty Elective	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (16 cr.)

BAF	450	Futures & Options (MR)	3 cr.
BAF	438	Credit Analysis and Commercial Lending(MR)	3 cr.
BAD	453	E-Business (CCR)	3 cr.
—	—	Free Elective	3 cr.
BAF	481	Finance Internship (MR)	1 cr.
REG	212	Religion and Social issue (GER)	3 cr.
or			
REG	213	Catholicism (GER)	3 cr.

Undergraduate Courses: Finance

BAF 311 Principles of Financial Management I (3.0); 3 cr. An introduction to the role of the financial manager and to the techniques for obtaining and using funds to maximize the value of the firm. Topics covered include: discounted cash-flow analysis; valuation methods; risk and rates of return; financial analysis and forecasting; financial planning and control; working-capital policy; cash and marketable securities management. The passing grade for DFAE students only is "C". *Prerequisites:* ACO 202, STA 206.

BAF 312 Principles of Financial Management II (3.0); 3 cr. This course is the continuation of BAF 311. Topics covered include: capital budgeting techniques; project cash flows and risk; the cost of capital, capital structure and leverage; dividend policy; common stock financing; long term debt; short-term financing; inventory and credit management. *Prerequisite:* BAF 311.

BAF 315 Financial Institutions and Markets (3.0); 3 cr. An introduction to the objectives and roles of various financial institutions and markets. Topics covered include: various financial intermediaries and their function in the economy; determination of interest rate levels; financial markets; financial claims; distribution channels for financial products; performance analysis and foreign exchange. *Prerequisite:* BAF 311.

BAF 317 Personal Financial Planning: Concepts and Principles (3.0); 3 cr. Designed to serve the personal finance needs of students regardless of their major fields. Practical applications in personal and family financial problems planning, including credit money management, buying, borrowing, banking, insurance, savings, investments, taxation, estate planning and home ownership. Discusses the method integrating these disciplines into an overall financial plan tailored to individual needs. *Prerequisite:* BAF 311.

BAF 319 Estate Planning Techniques (3.0); 3 cr. This course, which is complementary to Personal Financial Planning, concentrates on taxation and estate planning. These concepts are

applied to special situations and techniques are described for minimizing taxes and achievement of client objectives. Planning for retirement plan distributions also is explored. Tax system is described covering both estate and gift taxes. Further management of property and its disposition is described with use of such tools as of wills and wills substitute such as life insurance. This course also reviews various business structuring and the special issues associated with creation, retention or disposition of a business interest in a family's financial planning. *Prerequisite:* BAF 317.

BAF 321 Fundamentals of Investments (3.0); 3 cr. Principles and practices involved in the field of investment. Topics covered include: sources and determination of holding period; determination of security prices; capital asset pricing models; portfolio selection problems; investment companies. *Prerequisites:* BAF 312, STA 207.

BAF 325 Real Estate Principles (3.0); 3cr. Deals generally with urban real estate with emphasis on principles and practices of the real estate business. The course will include discussion of markets and methods of financing real property. An investment strategy will be developed. The real estate market in Lebanon will be emphasized. *Prerequisite:* BAF 312.

BAF 352 Commercial and Investment Banking (3.0); 3 cr. This course is designed to equip students with principles and tools which allow them to tackle realistic risk management problems associated with financial institutions. Another objective is to provide students with an understanding of the fundamental principles and concepts that underlie the Investment Banking process including market making, underwriting, and syndication. Also this course will examine recent trends in regulations and product innovation by both commercial and investment banks. This includes origination, underwriting, and distribution of new securities to the public. In addition formulation of objectives and policies of banks are discussed, including management of assets & liabilities, sources and uses of funds, administration of reports and

loans and evaluation of bank performance.
Prerequisites: BAF 312, BAF 315.

BAF 421 Advanced Investment Finance (3.0); 3 cr. An advanced level treatment of current theory and practice relating to contingent securities, speculative markets and portfolio management issues. Emphasis on recent innovations and developments in financial markets, including options, futures and portfolio insurance, etc... *Prerequisite:* BAF 321.

BAF 433 International Business Finance (3.0); 3 cr. Discussion of the environment and problems facing a financial manager in a multinational enterprise. Topics covered include: balance of payments; foreign exchange markets; transactions and operating exposure; financing of international trade; international financial markets; risk evaluation in foreign direct investments; international banking.
Prerequisites: BAF 311, ECN 212.

BAF 438 Credit Analysis and Commercial Lending (3.0); 3 cr. Focuses on how organization of the commercial lending business contributes to bank profitability; covers the commercial lending process from the initial loan request through collection. Topics include loan interviewing and credit investigation, credit analysis, structuring and negotiation, documentation and closing, problem loans, and follow-up. Also examination of analytical techniques to assume the role of credit officer.
Prerequisite: BAF 312.

BAF 444 International Banking (3.0); 3 cr. Internationalization of banks to meet the global financial needs of multinational activities. Theory and practice of international banking; subjects include current international monetary and financial environment and typical problems of international banking from a management perspective. Interaction with international financial markets and financial centers.
Prerequisite: BAF 312.

BAF 450 Futures and Options (3.0); 3 cr. Provides an introduction to financial futures

such as currency futures, swaps and interest rate futures. Explore the markets on which they are traded. Also analyzes pricing of options and other derivative securities. Includes the leverage and risk aspects of options. *Prerequisite:* BAF 321.

BAF 452 Financial Modeling (3.0); 3 cr. This course is designed to provide students with the basic programming skills that are needed to create realistic financial models. The course is based upon the excel / visual basic environment. Topics include financial price simulation, distribution analysis, cash flow maps, and optimization techniques. Participants will develop spreadsheets for pricing exotic option, OTC derivatives and other products.
Prerequisites: BAD 323, BAF 321.

BAF 461 Special Topics in Finance (1.0 - 3.0); 1-3 cr. Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offerings, offered only when faculty are available and sufficient student interest exists.
Prerequisite: Senior Standing.

BAF 481 Finance Internship; 1 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 350 hours of internship is required. *Prerequisite:* Senior Standing.

BAF 485 Advanced Corporate Finance (3.0); 3 cr. This course is about corporate financial management from the stand point of the general manager. Integration of financial operations with other operations of a business unit, including working capital management, financial planning and financial control, capital budgeting, the theory of corporate finance.
Prerequisite: Senior Standing.

The Degree of Bachelor of Business Administration - Accounting

The accounting track of concentration is designed to provide students with the opportunity to acquire the basic and advanced knowledge of accounting theory and practice in addition to the analytical skills and tools essential to a solid business education. Courses are designed to enable a student to understand the intellectual threads of modern accounting and its interrelationship to the various fields of business and management.

Accounting majors are increasingly taking and passing the Certified Public Accountant (CPA) Certified Management Accountant (CMA) and Certified International Audit (CIA) examinations through training in Accounting and related fields. It provides the practical and theoretical background needed to succeed in the dynamic and fascinating world of Accounting.

Degree Requirements (106 credits)

General Education Requirements 27 cr.

Required Common Courses 48 cr.

Major Requirements 25 cr.

ACO 323, ACO 31, ACO 411, ACO 413, ACO 421, ACO 48, BAF 312,

Choose two (2) faculty elective courses from the following:

ACO 314, ACO 321, ACO 350, ACO 406, ACO 414, BAD 429, BAD 431,

.BAF 452, BAF 485, CSC 221, CSC 315, CSC 321

Free Electives 6 cr.

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

The accounting major highlights four (4) areas where students along with their respective advisors can develop their business elective courses in a way to meet their potential job / career requirements. The following four areas are::

- Accounting Information Systems
- General Accounting
- Management Accounting & Control
- Auditing

All Accounting majors must complete an internship course which provides field experience prior to graduation.

The Accounting Information Systems (AIS) field was developed in response to employers indicating an increased need for accounting majors with computer expertise.

The AIS program prepares students for career opportunities in the field of accounting systems design, accounting systems management and accounting systems auditing and other systems – related areas of accounting.

Electronic processing of financial transactions is now the norm in small and large businesses alike. Accountants must be prepared to design, select, install and configure

numerous accounting applications such as accounts receivable and billing systems, human resources management systems, and financial reporting systems.

Other Accounting majors may choose business elective courses meeting the field of General Accounting. This field is designed to provide graduates with the knowledge and skills necessary to enter professional careers leading to an accounting designation or entry – level positions in accounting. Students can expect to develop conceptual and technical accounting competence and analytical abilities.

The Management Accounting & Control field of concentration was established to better serve the needs of students interested in industry or government. Typically, careers begin in one area of a company but soon involve work in a number of different functions within the organization such as the Controller’s Department, Internal Audit, Treasury and Finance, Cost Accounting, planning and budgeting, etc... The purpose of the required courses in this track is to give students an understanding of these areas and the basic skills required to successfully enter the organization in any of these positions.

This track is distinct, because it gives an increased emphasis on understanding the role of Accounting and in assisting management with decision making and organizational control as well as producing necessary information for external reporting.

The Auditing field of concentration is designed for students who desire to reach the top levels in public accounting. It provides the students with a strong technical and theoretical background which is helpful in solving today’s complex auditing and reporting problems.

**Bachelor of Business Administration - Accounting
Suggested Program (106 Credits)**

Fall Semester I (15 cr.)

ACO	201	Principles of Accounting I (CCR)	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
STA	206	Applied Statistics for Business & Econ. I (CCR)	3 cr.
MAT	204	Mathematics for Business & Economics I (CCR)	3 cr.

Spring Semester I (15)

ACO	202	Principles of Accounting II (CCR)	3 cr.
STA	207	Applied Statistics for Business & Econ. II (CCR)	3 cr.
ECN	212	Principles of Macroeconomics (CCR)	3 cr.
BAD	201	Fundamentals of Management (CCR)	3 cr.
MAT	205	Math for Business & Economics II (CCR)	3 cr.

Summer Module I (9 cr.)

ACO	311	Managerial Accounting (CCR)	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
ECN	211	Principles of Microeconomics (CCR)	3 cr.

Fall Semester II (15 cr.)

ACO	313	Intermediate Accounting I (MR)	3 cr.
BAD	311	Business Law (CCR)	3 cr.
BAF	311	Fundamentals of Financial Management I (CCR)	3 cr.
BAD	323	Software Tools for Business Applications (CCR)	3 cr.
—	—	(GER)	3 cr.

Spring Semester II (15 cr.)

ACO	323	Accounting Information System (MR)	3 cr.
BAF	312	Fundamentals of Financial Management II (MR)	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
—	—	(GER)	3 cr.
—	—	Faculty Elective	3 cr.

Summer Module II (9 cr.)

BAD	313	Managerial Economics (CCR)	3 cr.
MRK	201	Fundamentals of Marketing (CCR)	3 cr.
ARB	211	Appreciation of Arabic Literature (GER)	3 cr.
or			
ARB	231	Technical Arabic (GER)	3 cr.

Fall Semester III (15 cr.)

ACO	421	Advanced Accounting (MR)	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
ACO	413	Auditing I (MR)	3 cr.
—	—	Faculty Elective	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (13 cr.)

ACO	481	Accounting Internship (MR)	1 cr.
BAD	453	E-Business (CCR)	3 cr.
ACO	411	Taxation (MR)	3 cr.
REG	212	Religion and Social Issues (GER)	3 cr.
or			
REG	213	Catholicism (GER)	3 cr.
—	—	Free Elective	3 cr.

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 DFAE students only is “C”.

ACO 202 Principles of Accounting II (3.0); 3 cr. A continuation of ACO 201. Explanation and understanding of more advanced procedures of accounting for partnerships, corporations, long-term debts and marketable securities. Includes use of accounting software. The passing grade for this course for DFAE students only is “C”. *Prerequisite:* ACO 201.

ACO 311 Managerial Accounting (3.0); 3 cr. Fundamental managerial accounting procedures and techniques used in management decision-making. Topics covered include: cost types; cost behavior patterns; cost-volume-profit relationships; budgeting and planning; and performance evaluation. *Prerequisite:* ACO 202.

ACO 313 Intermediate Accounting I (3.0); 3 cr. An in-depth study of accounting theory and concepts. Topics covered include: issues related to recording revenues, assets, liabilities and equity structure. *Prerequisite:* ACO 202.

ACO 314 Intermediate Accounting II (3.0); 3 cr. This course is the continuation of ACO 313. Topics include: handling of long-term investments, stockholders’ equity, accounting for leases, analysis of financial statements, and other accounting topics. *Prerequisite:* ACO 313.

ACO 321 Cost Accounting (3.0); 3 cr. In-depth study of the procedures for gathering cost information. Topics covered include: mixed cost analysis; relevant costs; capital budgeting; and decision models. *Prerequisite:* ACO 311.

ACO 323 Accounting Information Systems (3.0); 3 cr. Examination of the systems for collecting and processing data necessary in planning, decision-making, and the control of business organizations. Includes use of

accounting software packages. *Prerequisites:* ACO 313, CSC 201.

ACO 350 Corporate Financial Reporting (3.0); 3 cr. This course covers the financial reporting system, principal financial statements other sources of financial information, statement of cash flows, foundations of ratio and financial analysis, analysis of business combinations, analysis of multinational operations, valuation and forecasting. *Prerequisite:* BAF 311.

ACO 406 Government and Non-Profit Accounting (3.0); 3 cr. Principles, procedures and ethics of financial reporting for non-profit organizations including state & local government. Includes the use of funds, budgets appropriations and encumbrances as means of control. *Prerequisite:* ACO 313.

ACO 411 Taxation (3.0); 3 cr. Application of the Lebanese income taxes to business entities and its reporting procedures. Also discussion of the issues related to the Lebanese accounting system such as multi-currency transactions, chart of accounts and closing procedures. *Prerequisite:* Senior Standing.

ACO 413 Auditing I (3.0); 3 cr. This course covers the functions and work of the independent auditor. Topics include: the auditing profession, the professional ethics auditor liabilities, overview of the audit process including the audit evidence, objective, audit program, working papers, planning audit, materiality and risk, post audit and reporting on audited income statement. *Prerequisite:* ACO 313.

ACO 414 Auditing II (3.0); 3 cr. This course is the continuation of Auditing I. This course provides a thorough understanding of the detailed audit procedure, audit planning, complete audit and post audit. The audit covers cash changes (cash flow) assets, inventory, accounts receivable, accounts payable, fixed assets, auditing revenue cycle, other services and reports and assurance services. *Prerequisite:* ACO 413.

ACO 421 Advanced Accounting (3.0); 3 cr. A comprehensive study of financial accounting for partnerships, branches, business combinations, and the reporting of consolidated financial statements. Also discussion of accounting for non-profit organizations. *Prerequisite:* Senior Standing.

ACO 481 Accounting Internship; 1 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 350 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (BBA) - Economics

The Economics track of concentration is designed to provide the student with an understanding of the principles and institutions governing economic decisions made by Households, Businesses and Governments. This type of knowledge combined with studies in related areas, provides an appropriate background for employment in financial and non-financial business firms and governmental agencies. It also provides a solid basis for graduate study in economics, business and public administration, international studies, urban planning and law.

Degree Requirements (106 credits)

General Education Requirements **27 cr.**

Required Common Courses **48 cr.**

Major Requirements **25 cr.**

ECN 313, ECN 321, ECN 323, ECN 431, ECN 436, ECN 439, ECN 481

Choose two (2) faculty elective courses from the following: (6 cr.)

ECN 314, ECN 325, ECN 327, ECN 432, ECN 434, ECN 435, ECN 437, BAF 312

Free Electives **6 cr.**

Students are free to choose any six (6) credits offered by the university.

Note: In rare cases graduating students may petition to substitute one business course for another, if the required business course is not offered in any one semester.

Bachelor of Business Administration - Economics¹
Suggested Program (106 Credits)

Fall Semester I (15 cr.)

ACO	201	Principles of Accounting I (CCR)	3 cr.
BAD	201	Fundamentals of Management (CCR)	3 cr.
MAT	204	Mathematics for Business and Economics I (CCR)	3 cr.
ECN	211	Principles of Microeconomics (CCR)	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.

Spring Semester I (15)

ACO	202	Principles of Accounting II (CCR)	3 cr.
ECN	212	Principles of Macroeconomics (CCR)	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
MAT	205	Mathematics for Business and Economics II (CCR)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 cr.)

MRK	201	Fundamentals of Marketing (CCR)	3 cr.
STA	206	Applied Statistics for Business and Economics I (CCR)	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 cr.)

CSC	201	Computers and Their Use (GER)	3 cr.
BAD	311	Business Law (CCR)	3 cr.
BAF	311	Principles of Financial Management I (CCR)	3 cr.
ECN	321	Intermediate Microeconomics Analysis (MR)	3 cr.
STA	207	Applied Statistics for Business and Economics II (CCR)	3 cr.

Spring Semester II (15 cr.)

ACO	311	Managerial Accounting (CCR)	3 cr.
BAD	323	Software Tools for Business Applications (CCR)	3 cr.
ECN	323	Intermediate Macroeconomics Analysis (MR)	3 cr.
ECN	313	Introduction to Econometrics (MR)	3 cr.
—	—	Free Elective	3 cr.

Summer Module II (9 cr.)

ENS	201	Introduction to Environmental Science (GER)	3 cr.
BAD	313	Managerial Economics (CCR)	3 cr.
—	—	Faculty Elective	3 cr.

Fall Semester III (15 cr.)

NTR	201	Basic Human Nutrition (GER)	3 cr.
ECN	436	Public Finance and Fiscal Policy (MR)	3 cr.
ECN	431	International Economics (MR)	3 cr.
ARB	211	Appreciation of Arabic Literature (GER)	3 cr.
OR			3 cr.
ARB	231	Technical Arabic (GER)	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (13 cr.)

ECN	439	Economics of Developing Countries (MR)	3 cr.
ECN	481	Seminar in Economics (MR)	1 cr.
REG	212	Religion and Social Issues (GER)	3 cr.
OR			
REG	213	Catholicism (GER)	3 cr.
BAD	453	E-Business (CCR)	3 cr.
—	—	Faculty Elective	3 cr.

¹ Students are strongly recommended to plan their courses for the entire program life in advance. To facilitate course planning, each course is noted in which semester it is going to be offered.

Undergraduate Courses: Economics

ECN 200 Survey of Economics (3.0); 3 cr. Survey of microeconomics and macroeconomics principles for non-Business Administration students. Students cannot receive credit for both ECN 200 and ECN 211 or ECN 212.

ECN 211 Principles of Microeconomics (3.0); 3 cr. An introduction to economic concepts, principles, and microeconomics analysis. Topics covered include: demand and supply analysis; consumers' choice; production and costs; price and output determination under different market conditions; and pricing of factors of production. The passing grade for this course for DFAE students only is "C".

ECN 212 Principles of Macroeconomics (3.0); 3 cr. An introduction to macroeconomics analysis. Topics covered include: national income determination; money and banking; unemployment and inflation; fiscal and monetary policy; international trade and finance. The passing grade for this course for DFAE students only is "C".

ECN 313 Introduction to Econometrics (3.0); 3 cr. The classical linear regression model and the multiple regression model in matrix form; the criteria for estimators; multicollinearity, serial correlation, heteroscedasticity; identification and estimation of simultaneous equation models and applications. *Prerequisites:* ECN 211, 212, STA 207, and MAT 205.

ECN 314 Applied Econometrics and Time Series (3.0); 3 cr. The main purpose of this course is to provide a comprehensive treatment of econometric techniques applied in time series models. Topics include: stationary and non-stationary time series models, modeling economic time series, multiequation time series models, notation and interpretation of ARIMA models, forecasting, ... An interactive econometric software package is used: Data-Fit or TSP (Time Series Processing). *Prerequisite:* ECN 313.

ECN 321 Intermediate Microeconomic Analysis (3.0); 3 cr. Theory of the firm and consumer. Topics covered include: maximizing

behavior of consumers; business firm behavior in price and output decisions under different types of market structures; factor price determination; welfare implications of marketplace performance. *Prerequisites:* ECN 211, ECN 212.

ECN 323 Intermediate Macroeconomic Analysis (3.0); 3 cr. Macroeconomics theory and policy. Topics covered include: measurement of aggregate economic activity; theories of inflation and unemployment; Monetarist-Keynesian-Rational Expectation controversy; business cycles; fiscal and monetary policies. *Prerequisites:* ECN 211, ECN 212.

ECN 325 Labor Economics (3.0); 3 cr. An analytic study of the labor market. Topics covered include: labor force participation and composition; human capital theory; wage determination; demand for and supply of labor; trade-unions; collective bargaining; public policy and unemployment; and the economics of discrimination. *Prerequisites:* ECN 211, ECN 212.

ECN 327 History of Economic Thought (3.0); 3 cr. A study of origins and development of economic thought from mercantilism to the present. *Prerequisites:* ECN 211, ECN 212.

ECN 431 International Economics (3.0); 3 cr. Theoretical and policy approach to the study of international trade and finance. Topics covered include: trade theory; instruments of commercial policy; trade policy in developing countries; economic integration; foreign exchange markets; balance of payments; international monetary system; world debt crisis. *Prerequisites:* ECN 211, ECN 212.

ECN 432 Urban Economics (3.0); 3 cr. An introduction to the existence and growth of cities, and the application of economic principles to the major problems of the modern urban community. Topics covered include: reasons for the existence of cities; market forces in the development of cities; urban economic growth; land rent and land use; land use controls and zoning; causes of poverty and public policy;

housing problems and policies; urban transportation; autos and highways; mass transit; education and crime; discrimination; programs for alleviation or solution of urban problems. *Prerequisite:* Senior standing.

ECN 434 Environmental and Natural Resource Economics (3.0); 3 cr. An introduction to the natural resource and environmental economics, and sustainable development. Topics covered include: introduction to resource and environmental economics; ethical foundations of environmental economics; economic concepts and analysis for examining natural resource use; the valuation of environmental resources; the population problem; sustainability and sustainable development; depletable, recyclable, non-recyclable, replenishable, storable, renewable and reproducible resources; the efficient and optimal use of environmental resources; the economics of pollution and pollution control policy; international and global environmental pollution problems. *Prerequisite:* ECN 321.

ECN 435 Monetary Theory and Policy (3.0); 3 cr. A study of the development of monetary theory and policy. Topics covered include: demand for and supply of money; nature of the Monetarist-Keynesian-Rational Expectation controversy; policy coordination; government monetary policy; inflation and unemployment; international constraints; empirical verification of some theories. *Prerequisites:* ECN 211, ECN 212.

ECN 436 Public Finance and Fiscal Policy (3.0); 3 cr. This course examines the economics of the public sector. It has two broad topics:

government expenditures and revenues. Topics include: market failures and optimal taxation; cost/benefit analysis of government projects; income redistribution and poverty programs; political economy and voting; the economics of local governments; budget deficits, inflation and the lack of adequate financing in the developing countries; tax systems with special emphasis on the Lebanese case. *Prerequisites:* ECN 321, ECN 323.

ECN 437 Contemporary Economic Systems (3.0); 3 cr. An examination and comparison of the organization, operation and performance of contemporary economic systems. Also study of the changing pattern of ideologies and practices. *Prerequisites:* ECN 211, ECN 212.

ECN 439 Economics of Developing Countries (3.0); 3 cr. A study of the economics of developing countries. Topics covered include: meaning of underdevelopment; historical patterns of economic change in the developing countries; population problems; obstacles to development; role of industry and agriculture; inequality of income and wealth distribution; economic planning; foreign aid and indebtedness. *Prerequisites:* ECN 211, ECN 212.

ECN 481 Seminar in Economics (1.0); 1 cr. An in-depth study of a selected topic in theoretical or applied economic. Students have to present a term-paper on a Lebanese government economic institution. With the permission of the instructor, students may repeat this course if topics vary. *Prerequisite:* Senior standing.

DEPARTMENT OF MANAGEMENT AND MARKETING

Chairperson: *Dr. Rashid Saber*

Secretary: *Miss Lucy Karaoun*

Assistant Professors

Harb, Atef, Ph.D., 1996, Ecole Polytechnique de Montreal, Canada

Economics-Operations Research

Saber, Rashid, Ph.D., 1998, California Coast University, USA

Marketing and Management

Senior Lecturers

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

Marketing

Hasham, Elham, D.E.A., 1997, USEK; ABD, 1999, USEK; ABD, 2001, Leicester University, UK

Management

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

Marketing

Instructors

Akhras, Caroline, M.B.A, 1989, American University of Beirut, Lebanon

Management

Menassa, Joyce, M.S., Beirut University College, Lebanon

Marketing

The Department of Management and Marketing offers the following undergraduate degree programs.

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

The BBA-Management option is designed to provide students with an understanding of the processes and structures of organizations to enable them to be more effective managers. The courses taken in addition to the required common courses provide the students with proficiency in management skills and decision-making. The program prepares candidates for managerial responsibilities in both the private and public sectors.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the common core and major requirements. These 106 credits are divided into:

Degree Requirements (106 credits)

General Education Requirements	27 cr.
Communication Skills ENL 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.	
Required Common Courses ACO 201 ¹ , ACO 202 ¹ , BAD 201, BAD 311, BAD 313, BAD 323, BAD 433, BAD 453, BAF, 311 ¹ , ECN 211 ¹ , ECN 212 ¹ , MRK 201, STA 206, STA 207, MAT 204, MAT 205	48 cr.
Required Major Courses BAD 315, BAD 317, BAD 425, BAD 429, BAD 431, BAD 482, MRK 421 Plus <u>two</u> additional courses from the following: BAF 312, BAD 321, BAD 329, BAD 421, BAD 423, BAD 427, ACO 311	19 cr.
Free Electives	6 cr.

¹ Minimum passing grade is C

**Bachelor of Business Administration (B.B.A.) – Management
Suggested Program (106 credits)**

Fall Semester I (15 Credits)

ACO	201	Principles of Accounting I	3 cr.
BAD	201	Fundamentals of Management	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ECN	211	Principles of Microeconomics	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.

Spring Semester I (15 Credits)

ACO	202	Principles of Accounting II	3 cr.
ECN	212	Principles of Macroeconomics	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
MAT	204	Mathematics for Business and Economics I	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

MRK	201	Fundamentals of Marketing	3 cr.
STA	207	Applied Statistics for Business and Economics II	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 Credits)

MAT	205	Mathematics for Business and Economics II	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.)

BAD	311	Business Law	3 cr.
ACO	311	Managerial Accounting	3 cr.
BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAF	312	Principles of Financial Management II	3 cr.

Summer Session II (7 Credits)

BAD	482	Management Internship	1 cr.
—	—	GER	6 cr.

Fall Semester III (15 Credits)

MRK	421	Sales Management	3 cr.
BAD	453	E-Business	3 cr.
BAD	425	Quantitative Techniques for Management	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

BAD	429	Operations Management	3 cr.
BAD	431	Ethics in Business	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

Undergraduate Courses: Business Administration

BAD 101 Introduction to Business (3.0); 3 cr. An orientation to the field of business. Topics covered include: types of business organizations; financing of businesses; marketing functions; management functions; human resources management; production management; accounting; international business.

BAD 201 Fundamentals of Management (3.0); 3 cr. An introduction to the basic elements of the managerial process and the basic theories of management. Topics covered include: management objectives; organizational structure; material and human resource utilization; human relations; decision making, planning, organizing, staffing, directing and controlling.

BAD 311 Business Law (3.0); 3 cr. Survey of Lebanese Commercial Law. Topics covered include: the nature of the law; the courts system; contracts; property sales and secured transactions; insurance; commercial papers; agency; business organizations; bailment; bankruptcy; banking operations; taxation.

BAD 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. *Prerequisite:* Senior Standing.

BAD 427 Human Resource Management (3.0); 3 cr. Theories, policies and practices of human resource management in a firm. Topics covered include: employee selection; training and development; performance appraisal and compensation; job analysis and design; benefits administration; labor-management relations. *Prerequisite:* BAD 317.

BAD 429 Operations Management (3.0); 3 cr. Introduction to the concepts, techniques and methodology of modern operations management. Topics covered include: forecasting; production planning and scheduling; facility location and layout; quality control; productivity; inventory systems; process design; maintenance and reliability. *Prerequisite:* Senior Standing.

BAD 431 Ethics in Business (3.0); 3 cr. A practical rather than philosophical approach to the ethical dimension of business actions. The course deals with the ethical problem and dilemmas of individuals, managers, and organizations. *Prerequisite:* Senior Standing.

BAD 433 Business Policy and Strategic Management (3.0); 3 cr. A capstone course in management. Integration of concepts and skills previously learnt, utilizing readings, projects, simulations, and case studies. Emphasis on the strategic issues facing domestic and international firms. *Prerequisite:* Senior Standing.

BAD 453 e-Business (3.0; 3 cr. The course examines the history, foundations, tools, and major issues surrounding the electronic commerce. Students will develop skills and learn how the economic framework and electronic technology come together in actual business applications, and how these applications become operational in the global business environment. *Prerequisite:* Senior Standing.

BAD 481 International Business Management Internship 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

BAD 482 Management Internship 1 cr. Interns will have the opportunity to develop new skills by working under the direction and supervision of an experienced practitioner and acquire practical skills. The internship will be done in cooperating and department approved firms. A minimum of 120 hours of internship is required. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Business Administration (B.B.A.) - International Business Management

Economic and business activity is becoming increasingly internationalized. There is a great demand for business students who are equipped with conceptual and analytical skills and can formulate feasible and effective management policies in a complex international setting. The objective of B.B.A. - International Business Management Concentration program is to answer this need.

The program provides useful preparation for careers in a variety of organizations, including local business firms with international trade, licensing or financial arrangements; headquarters or subsidiaries of multinational companies; banks and other international financial institutions; and various governmental organizations.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration -International Business Management Concentration must complete a total of 107 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and concentration requirements. These 107 credits are divided into:

Degree Requirements (107 credits)

General Education Requirements

27 cr.

Communication Skills

ENL 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.

Required Common Courses

48 cr.

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 313, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, MRK 201, STA 206, STA 207, MAT 204, MAT 205

Required Major Courses

19 cr.

BAD 315, BAD 317, BAD 421, ECN 431, BAF 433, MRK 423, BAD 481

Plus two additional courses from the following: BAD 325, ACO 311, BAD 427, BAD 429, BAD 431, ECN 439, MRK 425

Free Electives

7 cr.

¹ Minimum passing grade is C

**Bachelor of Business Administration—International Business Management
Suggested Program (107 Credits)**

Fall Semester I (15 Credits)

ACO	201	Principles of Accounting I	3 cr.
BAD	201	Fundamentals of Management	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ECN	211	Principles of Microeconomics	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.

Spring Semester I (15 Credits)

ACO	202	Principles of Accounting II	3 cr.
ECN	212	Principles of Macroeconomics	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
MAT	204	Mathematics for Business and Economics I	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

MRK	201	Fundamentals of Marketing	3 cr.
STA	207	Applied Statistics for Business and Economics II	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 Credits)

MAT	205	Mathematics for Business and Economics II	3 cr.
BAD	311	Business Law	3 cr.
BAD	313	Managerial Economics	3 cr.
BAF	311	Principles of Financial Management I	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits.)

BAD	315	International Business	3 cr.
BAD	317	Organizational Behavior	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAD	453	E-Business	3 cr.
—	—	Business Elective	3 cr.

Summer Session II (7 Credits)

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

Fall Semester III (15 Credits)

MRK	423	International Marketing	3 cr.
BAD	421	International Business Management	3 cr.
—	—	Business Elective	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

BAF	433	International Business Finance	3 cr.
ECN	431	International Economics	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
—	—	Free Elective	4 cr.
—	—	GER	3 cr.

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

The marketing curriculum is organized around a managerial framework to provide students with an understanding of the operations and problems associated with getting the wide range of products and services required by modern society from the producer to the user. Students learn to successfully confront problems in a variety of areas and to make sound marketing decisions on the basis of careful analysis.

Marketing is a dynamic profession. There is a wide range of opportunities in marketing, including marketing management, marketing research, purchasing management, market analysis, product/brand management, retailing, sales promotion, and international marketing.

Graduation Requirements

Students seeking the degree of Bachelor of Business Administration - Marketing Concentration must complete a total of 106 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and concentration requirements. These 106 credits are divided into:

Degree Requirements (106 credits)

General Education Requirements

27 cr.

Communication Skills

ENL 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.

Required Common Courses

48 cr.

ACO 201¹, ACO 202¹, BAD 201, BAD 311, BAD 313, BAD 323, BAD 433, BAD 453, BAF 311¹, ECN 211¹, ECN 212¹, MRK 201, STA 206, STA 207, MAT 204, MAT 205.

¹ Minimum passing grade is C

Required Major Courses

19 cr.

MRK 313, MRK 321, MRK 423, MRK 311, MRK 431, MRK 433, MRK 481

Plus two additional courses from the following: ACO 311, BAD 317, BAD 431, MRK 315, MRK 323, MRK 325, MRK 421, MRK 425, MRK 372

Free Electives

6 cr.

Bachelor of Business Administration (B.B.A.) – Marketing Suggested Program (106 credits)

Fall Semester I (15 Credits)

ACO	201	Principles of Accounting I	3 cr.
BAD	201	Fundamentals of Management	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ECN	211	Principles of Microeconomics	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.

Spring Semester I (15 Credits)

ACO	202	Principles of Accounting II	3 cr.
ECN	212	Principles of Macroeconomics	3 cr.
ENL	235	Technical English for Business (GER)	3 cr.
MAT	204	Mathematics for Business and Economics I	3 cr.
STA	206	Applied Statistics for Business and Economics I	3 cr.

Summer Session I (9 Credits)

MRK	201	Fundamentals of Marketing	3 cr.
—	—	GER	6 cr.

Fall Semester II (15 Credits)

MAT	205	Mathematics for Business and Economics II	3 cr.
MRK	311	Consumer Behavior	3 cr.
STA	207	Applied Statistics for Business and Economics II	3 cr.
BAF	311	Principles of Financial Management I	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits.)

BAD	313	Managerial Economics	3 cr.
MRK	313	Principles of Selling	3 cr.
MRK	321	Promotional Strategy	3 cr.
BAD	323	Software Tools for Business Applications	3 cr.
BAD	311	Business Law	3 cr.

Summer Session II (7 Credits)

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

Fall Semester III (15 Credits)

MRK	423	International Marketing	3 cr.
MRK	431	Marketing Research	3 cr.
BAD	453	E-Business	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

MRK	433	Business Policy and Strategic Management	3 cr.
BAD	433	Business Policy and Strategic Management	3 cr.
—	—	Business Elective	3 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

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 313.

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 372 Internet Marketing (3.0); 3 cr. E-Marketing is traditional marketing using electronic methods. It helps students develop the skills necessary to understand and integrate Internet technology and characteristics into marketing strategy. It helps students recognize and understand the implications of the Internet not only as a market place, but also as a set of tools and opportunities.

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:* MRK 321

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:* MRK 201; ECN 212.

MRK 425 Business - to - Business Marketing (3.0); 3 cr. Development of principles of distribution of industrial goods and management of industrial marketing organizations. Topics covered include: industrial marketing system and organization buying behavior; management

of industrial marketing mix; industrial market research; planning, pricing, selling and advertising decisions; strategies for industrial markets. *Prerequisite:* 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.) (Revised MBA Program)

Required Common Courses (to all MBA Options):

BAF 600, BAF 614, ACO 610, BAD 613, STA 614¹, ECN 626

I. General MBA

Non-Thesis Option:

1. The six (6) common courses: BAF 600, BAF 614, ACO 610, BAD 613, STA 614, ECN 626 (18 cr.)
2. Any other six (6) MBA courses (18 cr.)
3. Research project: BAD 680 (3 cr.)

Thesis Option

1. The six (6) common courses: BAF 600, BAF614, ACO 610, BAD 613, STA 614, ECN 626 (18 cr.)
2. Any five (5) MBA courses (15 cr.)
3. BAD 690 – Thesis (6 cr.)

II. MBA with Concentration

Non-Thesis Option

1. The six (6) common courses: BAF 600, BAF 614, ACO 610, BAD 613, STA 614, ECN 626 (18 cr.)
2. Any six (6) courses from a concentration area (18 cr.)
3. Research project: BAD 680 (3 cr.)

Thesis Option

1. The six (6) common courses: BAF 600, BAF 614, ACO 610, BAD 613, STA 614, ECN 626 (18 cr.)
2. Any four (4) MBA courses from a concentration area (12 cr.)
3. Any MBA elective course (3 cr)
4. BAD 690 - thesis (6 cr.)

N.B.:

1. If the student selects the **General MBA** (non-thesis and thesis options) he/she can register in the research project course BAD 680, or in BAD 690—thesis, after successfully completing 30 credits that include all six common courses listed above (18 cr.) plus any other 4 MBA courses (12 cr.).
2. If the student selects the **MBA with concentration** option, he/she can also register in the research project BAD 680, or in BAD 690-thesis after successfully completing 30 credits that include all six common courses plus any four (4) MBA courses (12 cr.) from his/her selected concentration area.

¹ STA 614 must be taken during the semester in which the student has entered the MBA program proper if the course is offered; if not it must be taken during the following semester at the latest.

Concentration Areas: Management & Finance

A. Management Option Courses

BAD 609, BAD 625, BAD 636, BAD 638, BAD 639, BAD 642, BAD 644, BAD 645, BAD 646

B. Finance Option Courses:

BAF 620, BAF 622, BAF 623, BAF 624, BAF 632, BAF 650, BAF 682

C. Elective Courses

ECN 627, ECN 628, BAD 634, BAD 660, MRK666, BAD 662, BAD 674 , BAD 676

D. BAD 680 Research Project

E. BAD 690 Thesis

Remedial Business Courses: For Non-Business Undergraduate Degree Holders

ACO 500 Fundamentals of Financial Accounting 3.0; 3 cr. Focuses on the basic financial accounting principles and more advanced procedures of accounting for sole proprietorships, partnerships and corporations. Explanation of the techniques of measuring, classifying, summarizing, reporting and interpreting financial information. Accounting software is used.

BAF 500 Fundamentals of Financial Management 3.0; 3 cr. A condensed version of financial management including the role of the financial manager and the techniques for obtaining and using funds to maximize the value of the firm. Topics covered include: discounted CF analysis, valuation methods, risk and return, financial analysis, financial planning and control, working capital management, cost of capital, capital structure, common stock and long term debt financing, and credit management.

ECN 500 Fundamentals of Micro and Macro Economics 3.0; 3 cr. Covers the basic principles, theories, and policies in both Micro

and Macro Economics. At the Micro level, it covers demand and supply analysis, consumer's theory, production costs, and market structure. At the Macro level it covers national income and output determination, money and banking, unemployment and inflation, and fiscal and monetary policies

BAD 500 Fundamentals of Management 3.0; 3 cr. An introduction to the basic principles and theories of management. It covers management objectives, organizational structures, material and human resource utilization, decision making, planning, organizing.

STA 500 Applied Statistics for Business and Economics 3.0; 3 cr. The course covers the following main topics: Introduction to statistics and probability, discrete and continuous random variables, sampling distribution, hypothesis testing and estimations, analysis of variance, simple and multiple regression, and time-series analysis. The course also applies these concepts and techniques to actual real world business and economic situations.

Graduate Courses: Accounting

ACO 610 Advanced Managerial Accounting 3.0; 3 cr. The course reviews the basic concepts

of managerial accounting. It treats at an advanced level the issues of production costs,

transfer pricing among the different affiliates of the firm, and their individual and collective performance domestically and world-wide.

Theories of cost allocation are discussed. Variance analysis techniques are used.

Graduate Courses: Management

BAD 609 Managing Information Technology 3.0; 3 cr. The course explores the competitive and strategic uses of information technology (IT) in modern business organizations. Topics covered include management in the information age, IT's strategic business role, the need for planning and developing an IT strategy, modern telecommunications system, and controlling information resources.

BAD 613 Advanced Managerial Economics 3.0; 3 cr. The course focuses on the application of micro-economic theory to the business decision-making process under conditions of certainty and uncertainty. Different market structures are also studied at an advanced level.

BAD 625 Corporate Strategies, Mergers and Acquisition 3.0; 3 cr. The course offers rigorous examination of the use of mergers and acquisitions as a mean to increase the product mix favored by corporations. Additional topics include anti-trust regulations, bids strategies and tactics, mergers and acquisitions accounting, target evaluation, corporate divestment and strategic alliances.

BAD 630 Organization Theory and Design 3.0; 3 cr. The course is an in-depth examination of the nature of contemporary complex organizations. Topics covered include organizational goals, environment, technology, change, information, power, conflicts, structures and personal satisfaction.

BAD 634 Labor Management Relations 3.0; 3 cr. The course discusses the relationships between unions, workers, management and government. Topics covered include collective bargaining, labor disputes resolution, strikes, arbitration, wages, employment security and labor legislation.

BAD 636 Project Planning and Management 3.0; 3 cr. The course covers the basic tools of project planning and management, the role of the project manager, project evaluation, selecting,

budgeting, scheduling, resource allocation, and task crushing, project implementation, monitoring, control and follow-up, and the importance of team-work. A software package will be used.

BAD 638 Development and Management of Human Resources 3.0; 3 cr. The course explores both the theoretical and practical explanation of human and organizational behavior, and the management and development of human resources. The course also focuses on the evaluation and management of individual and group dynamics, issues of labor unions, skills development, recruitment, manpower, models of human resources planning, forecasting and simulation.

BAD 639 E-Business 3.0; 3 cr. The course explores the latest applications in electronic trading and the necessary infrastructure needed to make e-business possible and efficient.

BAD 642 Management Leadership 3.0; 3 cr. The course studies the crucial issue of leadership in large and small businesses, in local and international setting, and evaluates the different theoretical models on management leadership. It also applies the models to specific cases and eminent individuals that symbolize leadership in business and other settings.

BAD 644 Advanced Strategic Management 3.0; 3 cr. The course integrates the relevant dynamic components of all the functional areas of management. Emphasis is put on strategy formulation and implementation. Decision simulation models for strategic global planning are analysed and applied.

BAD 645 Operations Management 3.0; 3 cr. The course covers topics such as operations strategy, product and process designs, the choice of appropriate technology, quality control, scheduling, supply chain management, JIT systems, etc.

BAD 646 Seminar in Contemporary Management Issues 3.0; 3 cr. The seminar offers an in-depth analysis of key changes currently occurring in management, causes for change and ways to cope with it.

BAD 660 Advanced Marketing Management 3.0; 3 cr. The course focuses on the study of the integration of the product, pricing, promotion, distribution, and sales force policies to fulfill marketing objectives.

BAD 662 Product Development and Management 3.0; 3 cr. The course explores each step in the strategy, opportunity identification, design, testing, launching, and management stages of a new product. Topics include perpetual mapping, estimating potential sales, quality control and customer services. Students are expected to create complete programs for new products.

BAD 674 International Business Law 3.0; 3 cr. The course studies the international legal framework in which business is conducted. It focuses on international laws, regulations, tax laws, GATT and WTO rules, laws on intellectual property. It also addresses the issue of business ethic.

BAD 676 Special Topics 3.0; 3 cr. Whenever there is a consensus that a certain new topic is of crucial importance to the professional formation of the MBA student, and is not comprehensively covered by any existing MBA course or seminar, this topic can be offered as a special topic course or seminar. The topic can be different every time, and the course can be taken more than once provided the topics are different.

BAD 680 Research Project 3 cr. The successful completion of an original research project is a must for an MBA student to graduate if he selects a non-thesis option. The project needs to be undertaken after the required 36 credits have been successfully completed. The student chooses the topic, and he works with an assigned committee consisting of an advisor who is a specialist in the chosen research area, assisted by one or two reader(s).

BAD 690 Thesis 6 cr. Research on a significant problem in business administration selected by the candidate from a concentration area (in case he chooses one) or from other topics of the MBA program.

Graduate Courses: Finance

BAF 600 Intermediate Corporate Finance 3.0; 3 cr. The course covers financial management decision making and capital budgeting under risk, forecasting techniques, capital structure, etc.

BAF 614 Financial Statement Analysis, Financial Planning and Capital Budgeting 3.0; 3 cr. The course aims at developing the student's ability to analyse financial statements for the purposes of assessing a company's financial stability performance and efficiency. The course also focuses on financial planning and the issues associated with evaluating investment opportunities and the use of capital budgeting techniques.

BAF 620 Investment, Securities Analysis and Portfolio Management 3.3; 3 cr. The course covers the functioning of the credit markets in both the advanced and the developing economies

(emerging markets). It evaluates the role of credit markets in financing economic development both at the project level (micro) and the level of a whole sector or the over-all economy (macro). In addition the course focuses on the analysis of marketable securities, other types of investments, evaluation, trading systems. Case studies will be widely used.

BAF 622 Global Finance and the Multinational Corporation 3.3; 3 cr. The course focuses on the role of the multinational corporation in direct foreign investment, transfer pricing, and global finance. It also covers the international capital market, foreign exchange markets risk, etc.

BAF 623 Entrepreneurship and Venture Capital 3.0; 3 cr. The course examines the entrepreneurial and venture capital mobilization process. Topics include the nature and

importance of entrepreneurship, new ventures opportunity recognition, assessing the feasibility of new venture ideas, valuation techniques, and financing new ventures. Teams of students will develop business plans that will be presented to potential investors.

BAF 624 Commercial Banking and Risk Management 3.0; 3 cr. The course focuses on commercial banking decision making process especially in relation to assessing and managing risk, portfolio management of assets and liabilities, and key financial capital adequacy indicators. The case study approach is emphasized.

BAF 632 Investment Banking 3.0; 3 cr. The course focuses on the theory and practice of investment banking. Topics covered include

corporate restructuring, evaluation of the cost-benefit of mergers, underwriting, packaged syndicated loans, and other forms of financing corporate deals emphasized.

BAF 650 Futures and Options Markets 3.0; 3 cr. The course deals with the theories, the working, and the efficiency of the futures, options, and other derivative markets as well as on the applicable regulations in place.

BAF 682 Graduate Seminar in Finance 3.0; 3 cr. The instructor offering the seminar chooses a major and real world finance topic for the seminar which is offered once a year. The selected topic may vary each time the seminar is offered, and can be taken more than once by the student

Graduate Courses: Economics

ECN 626 Public Finance 3.0; 3 cr. The course analyzes both the revenue and expenditure size of government finance and the principles on which taxation is based. The course also focuses on linking the problems of budget deficits, inflation, and lack of adequate financing in developing countries and the regressive nature of their tax systems. A case study on Lebanon is used.

ECN 627 Real Estate Markets 3.0; 3 cr. The course covers the principles and functioning of

urban real estate markets with emphasis on the Lebanese real estate market and the problem of the huge glut of unsold units in that market.

ECN 628 Macro Economic and Monetary Theories and Policies 3.0; 3 cr. The course reviews basic macro economic and monetary theories and policies, and assesses the relation between budget deficits and money creation by the banking system. The case study of Lebanon is emphasized.

Graduate Courses: Marketing

MRK 666 Applied Marketing Research 3.0; 3 cr. The course makes use of both quantitative and qualitative research methods for obtaining and analyzing data for marketing decisions. Topics include the marketing research process, research design procedure and choices,

techniques of primary and secondary data collection, analytical methods such as regression analysis, multidimensional scaling and conjoint, cluster, factor, discriminant and logic analyses. An appropriate software is used in the course.

DEPARTMENT OF HOTEL MANAGEMENT AND TOURISM

Chairperson: *Mr. Youssef Zgheib*

Secretary: *Miss Nidale Tohme*

Senior Lecturers

Zgheib, Youssef, M.B.A., 1985, American University of Beirut, Lebanon

Hospitality Management

Kassis, Tanios, M.A., 1995, IMMI Cornell University/Essec, France

Hospitality Management

Instructors

Abboud-Assaf, Carole, M.B.A., 1995, Notre Dame University - Louaize, Lebanon

Tourism and Marketing

Beyrouthy, Ghassan, M.B.A., 1999, Notre Dame University - Louaize, Lebanon

Hospitality Management and Tourism

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:

**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.	
Free Electives	3 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	382	Internship II: Food and Beverage Operations	1 cr.
or			
HTM	381	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 I 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 interdepartmental 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. *Corequisite:* 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. Jacques Harb, *Chairperson*

DEPARTMENT OF ELECTRICAL AND COMPUTER AND
COMMUNICATION ENGINEERING
Dr. Elias Nassar, *Chairperson*

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

FACULTY DIRECTORY

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Department of Civil Engineering

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Tel: 09-218-950/51/52 Extension 2029

e-mail: jharb@ndu.edu.lb

Department of Electrical and Computer and Communication Engineering

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Department of Mechanical Engineering

Engineering Building, 3rd floor, Room E 306

Tel: 09-218-950/51/52 Extension 2222

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, Iowa State University, U.S.A.

¹*Helou, Fares A.*, Doctor of Engineering, 1991, Cleveland State University, U.S.A.

Assistant Professors

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

Chakar, Elie, Docteur, 1994, *Sciences et techniques du bâtiment*, Ecole Nationale des Ponts et Chaussées, Paris, France.

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

El Murr, Sami, Ph.D., 1986, Mississippi State University, U.S.A.

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

Hamad, Moustafa, Ph.D., 1995, University of South Florida, U.S.A.

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

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

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

Nassar, Elias, Ph.D., 1997, The Ohio State University, U.S.A.

Lecturer

El-Khoury, Jihad, M.S., 1992, *Civil Engineering*, Georgia Institute of Technology, U.S.A.

Assistant Instructors

Breidy, George, B.S., 1990, *Engineering*, California State University, U.S.A.

Laboratory Assistant

Daou, Wissam, B.E., 2000, *Mechanical Engineering*, NDU, Lebanon.

Mounsef, Jinane, B.E., 1999, *Computer Engineering (Communication)*, NDU, Lebanon.

Nissi, Sophia Ghanimeh, B.E., 1999, *Civil Engineering*, NDU, Lebanon.

Siranosian, Aline, B.E., 2001, *Electrical 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*

Fahed, Nathalie, B.A., *Advertising and Marketing*, 2001, NDU, *Secretary*

Serhan, Sana, SGII, 1993, Pigier, *Secretary*

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 judgment and responsibility to develop ways to utilize the materials and forces of nature for the benefit of mankind.

The programs in civil, computer and communication, electrical and mechanical engineering prepare the students to enter immediately the professional practice upon graduation and to pursue graduate study.

The curricula of the Engineering Departments share three basic tenants: scientific and technological competence, balance between theory and practice, and commitment to self-maintained and enduring personal and professional development.

Courses are enhanced by excellent computing facilities and by extensive hands-on state-of-the-art laboratory experiences that are integrated throughout the five-year curricula.

Class and laboratory enrollment is maintained at small class sizes to ensure personal attention by a faculty that is committed to outstanding instruction as well as close student-faculty interaction both within and outside the classroom.

The Faculty supports and counsels on-campus chapters of international professional organizations that engage in a variety of activities to provide the students with national and international exposure.

Academic departments and Programs

The Faculty of Engineering (FE) consists of the following departments:

Department of Civil Engineering

Department of Electrical and Computer and Communication Engineering

Department of Mechanical Engineering

and offers programs in Civil Engineering (CE), Mechanical Engineering (ME), Electrical Engineering (EE), and Computer and Communication Engineering (CCE), leading to the degree of Bachelor of Engineering.

Facilities

The states-of-the-art and extensive laboratories of the Faculty of Engineering are available for faculty and student research, senior engineering projects, engineering competition projects and instruction, through open hours and scores of regularly scheduled laboratory courses.

Faculty members in the academic ranks are responsible for the lab course content, relevance to the curriculum, project supervision and the facilities development and update.

Dedicated instructors supported by the laboratory staff are in charge of the laboratory courses instruction.

With these academic functions, laboratories have the effective capabilities, practical functionalities and excellent quality to provide wide-ranging services to the engineering profession. These services include certified testing to the construction industry as well as advanced and unique experimental research.

Curricula

The curriculum of each program is listed under the appropriate department. All engineering curricula share a common General Education Requirements (GER) component of 24 credits distributed as follows:

General Education Requirements	24 cr.
Communications Skills	6 cr.
ENL 221 and ENL 239	
Cultural Studies	6 cr.
a One course from:	
REG 212, REG 213	
b. One course from:	
ARB 211, ARB 212, ARB 231,	
HUT 305, HUT 306, HUT 411	
LIR 211, LIR 212, or equivalent LIR	
FDP 201, FAP 214	
GDP 224	
Basic Science Studies	6 cr.
Two courses from:	
ENS 201, ENS 202, ENS 206	
NTR 201	
HEA 201	
BIO 202, BIO 203	
AST 201	
Free Elective	6 cr.
Two additional courses from the above indicated courses with the stipulation that GER may not include:	
a) More than one Arabic course	
b) Any course required for the major.	

DEPARTMENT OF CIVIL ENGINEERING

Chairperson: *Dr. Jacques Harb*

Secretary: *Mrs. Ghada Kattan*

Associate Professor

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

Assistant Professors

Chakar, Elie, Docteur, 1994, *Sciences et Techniques du Bâtiment*, Ecole Nationale des Ponts et Chaussées, Paris, France.

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

Harb, Jacques, Ph.D., 1996, Northeastern University, U.S.A.

Laboratory Assistant

Nissi, Sophia Ghanimeh, B.E., 1999, *Civil Engineering*, NDU, Lebanon.

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 to 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)

	Number of Credits (cr.)
General Education Requirements	24 cr.
Core Requirements CHM 211, CSC 214, EEN 100, GEO 201, MAT 215, MAT 323, MAT 339, MEN 101, MEN 210, MEN 320, MEN 400, PHS 203.	37 cr.
Major Requirements 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.	90 cr.
Electives 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.	9 cr.

**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 Physics III	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, photogrammetrical, 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 308 Statics for Architects (3.0); 3 cr. Forces, moments and couples; free body diagrams; centroids; moment of inertia; problems involving beams, trusses, and frames.

CEN 309 Mechanics of Materials for Architects (3.0); 3 cr. Axial members; shear and bending moment diagrams; stress-strain relationship; flexural and shear stresses in beams; Mohr circles; beam deflections; buckling of columns. *Prerequisite:* CEN 308.

CEN 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. *Co-requisite:* 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 419 Structures for Architects (3.0); 3cr. Structural forms; analysis of structurally determinate structures; moving loads, influence lines; introduction to indeterminate structures and approximate solutions; modeling and analysis of structures using structural analysis software packages. *Prerequisite:* CEN 309.

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

CEN 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 439 Concrete Design for Architects (3.0); 3cr. Behavior of reinforced concrete; ultimate strength design method; pre-dimensioning of concrete structural elements; design of beams for flexure and shear, one-way slabs, footings, and short columns. Analysis methods of concrete frames. *Prerequisite:* CEN 419.

CEN 440 Steel Design (3.0); 3 cr. Design of steel beam girders, tension member columns, bolted, riveted, and welded connections. *Prerequisite:* CEN 210.

CEN 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 storm water 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. Elias Nassar*

Secretary: *Miss Nathalie Fahed*

Professor

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

Assistant Professors

El Murr, Sami, Ph.D., 1986, Mississippi State University, U.S.A.

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

Hamad, Moustafa, Ph.D., 1995, University of South Florida, U.S.A.

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

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

Nassar, Elias, Ph.D., 1997, , The Ohio State University, U.S.A.

Assistant Instructor

Breidy, George, B.S., 1990, *Engineering*, California State University, U.S.A.

Laboratory Assistant

Mounsef, Jinane, B.E., 1999, *Computer Engineering*, NDU, Lebanon.

Siranosian, Aline, B.E., 2001, *Electrical Engineering*, NDU, Lebanon

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 45 credits of upper-division course work including 3 credits of project work.

Full time students entering the computer and communication engineering program of first year standing must complete the listed program within eight years of the date of enrollment in the program.

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)

	Number of Credits (cr.)
General Education Requirements	24 cr.
Core Requirements 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.	47 cr.
Major Requirements 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 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. One of the following laboratories: EEN 415 or EEN 541.	83 cr.
Electives Choose any two courses from the following pool: CSC 426, CSC 431, CSC 432, EEN 518, EEN 526, EEN 527, EEN 532, EEN 533, EEN 546, EEN 547, EEN 548, EEN 549, EEN 582, EEN 583, EEN 584.	6 cr.

**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.
MAT	335	Partial Differential Equations	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.
PHS	213	Modern Physics	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.
EEN	414	VLSI Design	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.
MAT	326	Probability and Statistics for Engineers	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	416	Principles of Semiconductors	3 cr.
EEN	425	Microprocessor System Design Lab	1 cr.
EEN	442	Signal Processing Lab	1 cr.
EEN	543	Analog Communication	3 cr.
----	----	GER Elective	3 cr.

Summer Session IV (6 Credits)

ENS	201	Introduction to Environmental Science (GER)	3 cr.
—	—	GER Elective	3 cr.

Year 5

Fall Semester V (12 Credits)

CSC	425	Data Communications and Computer Networks	3 cr.
EEN	544	Digital Communication	3 cr.
—	—	Elective	3 cr.
EEN	570	Engineering Project	3 cr.

Spring Semester V (12 Credits)

EEN	545	Fiber Optics Communication	3 cr.
EEN	415/ 541	Elective Laboratory	1 cr.
—	—	Elective	3 cr.

The Degree of Bachelor of Engineering in Electrical Engineering

the Electrical Engineering program promotes the development of technologies that affect our every day life. An Electrical Engineer's work includes the design of analog and digital electronic systems, design and operation of power systems (generation, transmission and distribution), design of auxiliary models to stabilize and/or modify the dynamics of systems (autopilot of aircraft, on-board control systems of automobiles), design of devices for telecommunication systems (cellular phones, microwave links.)

Admission Requirements

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 45 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)

	Number of Credits (cr.)
General Education Requirements	24 cr.
Core Requirements CHM 211, CSC 211, CSC 212, CSC 222, CSC 313, CSC 314, MAT 213, MAT 215, MAT 224, MAT 339, PHS 204, PHS 213.	38 cr.
Major Requirements 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 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. One of the following Laboratories EEN 454 or EEN 541.	89 cr.
Electives Choose any three courses from the following pool: EEN 518, EEN 526, EEN 527, EEN 532, EEN 533, EEN 546, EEN 547, EEN 548, EEN 549, EEN 567, EEN 568, EEN 581, EEN 582, EEN 583, EEN 584.	9 cr.

**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.
MAT	335	Partial Differential Equations	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.
PHS	213	Modern Physics	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.
EEN	543	Analog Communication	3 cr.

Summer Session IV (4 Credits)

EEN	454 /	Elective Laboratory	1 cr.
	541		
REG	212	Religion and Social Issues (GER)	3 cr.

Year 5

Fall Semester V (15 Credits)

ENS	201	Introduction to Environmental Science (GER)	3 cr.
EEN	544	Digital Communication	3 cr.
EEN	555	Power Electronics	3 cr.
EEN	570	Engineering Project	3 cr.
—	—	Elective	3 cr.

Spring Semester V (8 Credits)

EEN	556	Power Electronics Laboratory	1 cr.
EEN	562	Control Systems Laboratory	1 cr.
—	—	Elective	3 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. *Prerequisite:* MAT 112.

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. *Prerequisite:* 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. *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. *Prerequisites:* EEN 210, EEN 102.

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. *Prerequisites:* EEN 212, EEN 211.

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. *Prerequisites:* EEN 220, EEN 102.

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 212, EEN 220.

EEN 323 Digital Electronics Laboratory (0.2); 1 cr. Digital design laboratory experiments and project based on EEN 322, and EEN 220. *Prerequisites:* EEN 322, EEN 221.

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. *Prerequisites:* EEN 101, MAT 335.

EEN 351 Electrical Machinery (3.0); 3 cr. Magnetic circuits. Transformers. Fundamentals of rotating machinery. DC generators and motors. Three phase synchronous generators and motors. Induction motors. Analysis and design. *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. *Prerequisites:* EEN 330, PHS 213.

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 322.

EEN 425 Microprocessor System Design Laboratory (0.2); 1 cr. Design project related to the course EEN 424, EEN 221.

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. Basic principles of power distribution and transmission. The per-unit system. Transmission line parameters. Generator and transformer models, Line model and performance. Power flow analysis. *Prerequisite:* EEN 351.

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. Optimal dispatch of generation. Synchronous machine transient analysis. Balanced faults. Symmetrical components and unbalanced fault. Stability. *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. *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 326.

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 210, EEN 351.

EEN 556 Power Electronics Laboratory (0.2); 1 cr. Laboratory for EEN 555. *Prerequisite:* 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. Design project (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.

circuitry. Preventive maintenance and safety control.

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

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 Sarhan*

Associate Professor

Assaf, Walid, Ph.D., 1965, Iowa State University, U.S.A,

Assistant Professors

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

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

Laboratory Assistant

Daou, Wissam, B.E., 2000, *Mechanical Engineering*, NDU, Lebanon.

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)

	Number of Credits (cr.)
General Education Requirements	24 cr.
Core Requirements CHM 211, CEN 390, CEN 580, CSC 214, EEN 100, EEN 101, MAT 323, MAT 339, MEN 400, PHS 203, PHS 212, PHS 213.	36 cr.
Major Requirements 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.	90 cr.
Electives	12 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.
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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, connectivity, 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 360.

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. Interchangeability 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 340.

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 Karman 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 310.

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 430.

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); 2cr. Continuation of MEN 460.

FACULTY OF HUMANITIES (FHUM)

Dr. Boulos Sarru, *Dean*

DEPARTMENT OF ENGLISH, TRANSLATION AND
EDUCATION

Dr. Amal Yazigy, *Chairperson*

DEPARTMENT OF MASS COMMUNICATION

Dr. Khalid Fakh, *Chairperson*

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES

Dr. Doumit Salameh, *Chairperson*

Freshman Arts Program

Dr. Christine Sabieh, *Academic Advisor*

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: ayazigy@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

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.

¹*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, UK.

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

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

Bahous, Jocelyne, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Science Humaines*, Université du Saint-Esprit Kaslik, Lebanon.

Darouny, Kamal, M.A., 1986, *Marketing and Advertising*, Sussex College of Technology, UK.

Donerian, Vatche, M.A., 1987, *Theater and TV Directing*, Yerevan State Institute of Dramatic and Fine Arts, Armenia.

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-UK.

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

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

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

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

Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, *Philosophie et Sciences Humaines*, Université du Saint-Esprit Kaslik, Lebanon.

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

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

Yazigi, Amal, Ph.D., 1992, *Applied Linguistics*, Leicester University, England.

¹ On tenure appointment

Senior Lecturers

Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology*, Université Libanaise, Lebanon
Chamoun, Imad, D.E.A., 1994, *Philosophie*, Université du Saint-Esprit Kaslik, Lebanon.

Lecturers

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

Instructors

Bassil, Janet, MBA, 1996, *International Affairs*, NDU
Hajj, Michael, M.A., 1997, *English Literature*, NDU
Van Loan, Amira, M.A. 1995, *TESL*, The American University, Washington D.C., USA

Studio Instructor

Azar, Antoine, DES, 1980, Université 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, Translation, 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

Bachelor of Arts in Communication Arts-Journalism concentration

Bachelor of Arts in Communication Arts-Radio/TV concentration

Bachelor of Arts in Advertising and Marketing

Bachelor 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

Master of Arts in Education

Master of Arts in English Literature

Master of Arts in Applied Linguistics and TEFL

Master of Arts in Translation and Interpretership

Master of Arts in Media Studies

 Advertising

 Electronic Media

Journalism

Master of Arts in Arabic Language and Literature

Teaching Diploma

Teaching Certificate

DEPARTMENT OF ENGLISH, TRANSLATION AND EDUCATION

Chairperson: *Dr. Amal Yazigy*

Secretary: *Mrs. Diana Sarkis*

Professors

Sarru', Boulos, Ph.D., 1979, Indiana University, USA.

English and American Studies

Associate Professors

Eid, Assad, Doctorate, 1986, Université Saint-Joseph, Lebanon.

Applied Linguistics and TEFL

Ghaleb, Mary, Ph.D., 1993, University of Texas at Austin, USA.

Foreign Language Education

Oueijan, Najj, Ph.D., 1985, Baylor University, USA.

English Literature

Assistant Professors

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

Education

Bahous, Jocelyne, Doctorate 1^{ère} Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon.

Philosophie et Sciences Humaines

Jahshan, Paul, Ph.D., 2000, Nottingham University-Nottingham, UK.

American Studies

Kfourri, Carol, Doctorate 1^{ère} Catégorie, 1997, Université du Saint-Esprit Kaslik, Lebanon.

Philosophie et Sciences Humaines

Malek, Amal, Doctorate 1^{ère} Catégorie, 2000 Université du Saint-Esprit Kaslik, Lebanon..

Philosophie et Sciences Humaines

Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon.

Philosophie et Sciences Humaines

Samra, Sami, Doctorate 1^{ère} Catégorie, 1999, Saint Esprit-Kaslik, Lebanon.

Philosophie et Sciences Humaines

Yazigi, Amal, Ph.D., 1992, Leicester University, England.

Applied Linguistics

Lecturers

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, Notre Dame University, Lebanon.

International Affairs

Hajj, Micheal, M.A., 1997, Notre Dame University, Lebanon.

English Literature

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

B.A. in English

B.A. in Translation and Interpretership

M.A. in Applied Linguistics and TEFL

M.A. in English Literature

M.A. in Translation and Interpretership

Teaching Diploma

Teaching Certificate.

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

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 Bachelor of Arts in Education - Early Childhood

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Early Childhood program prepares students to work with pre-school pupils, providing them with proper activities reinforcing positive attitudes towards the school.

Graduation Requirements

Students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the Core and Major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)	Number of Credits (cr.)
General Education Requirements	27 cr.
Communication Skills ENL 222, ENL 223	
Computer Skills CSC 201	
Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies.	
Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.	
Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.	
Core Requirements PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360	30 cr.
Major Requirements EDU 311, EDU 332, EDU 344, EDU 355, EDU 411, EDU 413, EDU 465, EDU 475, EDU 485	25 cr.
Students must choose 18 credits as described below:	18 cr.
<i>Group I:</i> EDU 212 or EDU 301 or EDU 321 (3 credits)	
<i>Group II:</i> EDU 361 or EDU 362 or EDU 402 or EDU 420 or EDU 421 or EDU 422 or EDU 430 or EDU 450 (12 credits)	
<i>Group III:</i> EDU 401 or SOL 312 (3 credits)	
Free Electives	5 cr.

**Bachelor of Arts in Education - Early Childhood
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ARB	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (15 Credits)

PSL	211	Psychology of the Young Child	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
EDU	213	Human Growth and Development	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
REG	—	GER	3 cr.

Fall Semester II (15 Credits)

EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
EDU	344	School Libraries	3 cr.
ENL	311	English Phonetics	3 cr.
STA	201	Statistics for Social Sciences	3 cr.

Spring Semester II (15 Credits)

EDU	311	Children's Literature	3 cr.
EDU	355	Methods of Teaching: Early Childhood	3 cr.
—	—	Group I ¹	3 cr.
—	—	Group II ²	3 cr.
—	—	Free Elective	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT	411	Aesthetics	3 cr.
or			
SOL	313	Family Violence and Child Abuse	
—	—	Group III ³	3 cr.

Fall Semester III (15 Credits)

EDU	332	Curriculum Development and Evaluation: Early Childhood	3 cr.
EDU	411	Early Childhood Education	3 cr.
EDU	465	Early Childhood Teaching Practicum I	3 cr.
—	—	Group II ²	6 cr.

Spring Semester III (12 Credits)

EDU	413	Early Childhood General Health, Nutrition and Safety	3 cr.
EDU	475	Early Childhood Teaching Practicum II	3 cr.
EDU	485	Early Childhood Internship	1 cr.
—	—	Group II ²	3 cr.
—	—	Free Elective	2 cr.

¹Group I (3 cr.) EDU 212/301/321

²Group II (12 cr.) EDU 361/362/402/420/421/422/430/450

³Group III (3 cr.) EDU 401/SOL 312

The Bachelor of Arts in Education - Learning Disabilities

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Learning Disabilities program prepares students to work with pupils disadvantaged by learning disabilities.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the Core and Major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
Communication Skills ENL 222, ENL 223	
Computer Skills CSC 201	
Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies.	
Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.	
Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.	
Core Requirements PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360	30 cr.
Major Requirements EDU 311, EDU 324, EDU 344, EDU 357, EDU 422, EDU 430, EDU 460, EDU 470, EDU 480	25 cr.
Students must choose 18 credits as described below:	18 cr.
<i>Group I:</i> EDU 212 or EDU 302 or EDU 325 (3 credits)	
<i>Group II:</i> EDU 321 or EDU 342 (3 credits)	
<i>Group III:</i> EDU 362 or EDU 402 or EDU 412 or EDU 413 or EDU 420 or EDU 421 or EDU 451 (9 credits)	
<i>Group IV:</i> EDU 401 or SOL 312 (3 credits)	
Free Electives	5 cr.

Bachelor of Arts in 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.
CSC	201	Computers and Their Use (GER)	3 cr.
ARB	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (15 Credits)

PSL	211	Psychology of the Young Child	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
EDU	213	Human Growth and Development	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
REG	—	GER	3 cr.

Fall Semester II (15 Credits)

EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
EDU	344	School Libraries	3 cr.
ENL	311	English Phonetics	3 cr.
STA	201	Statistics for Social Sciences	3 cr.

Spring Semester II (15 Credits)

EDU	311	Children's Literature	3 cr.
EDU	324	Counseling in Special Education	3 cr.
EDU	357	Methodology of Teaching: Learning Disabilities	3 cr.
—	—	Group I ¹	3 cr.
—	—	Group II ²	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT	411	Aesthetics	3 cr.
or			
SOL	313	Family Violence and Child Abuse	
—	—	Group III ³	3 cr.

Fall Semester III (15 Credits)

EDU	422	Learning and Behavioral Difficulties of Children	3 cr.
EDU	460	Elementary Teaching Practicum I	3 cr.
—	—	Group III ³	3 cr.
—	—	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 IV ⁴	3 cr.
—	—	Free Elective	2 cr.

¹ Group I (3 cr.) EDU 212/302/325

² Group II (3 cr.) EDU 321/342

³ Group III (9 cr.) EDU 362/402/412/413/420/421/451

⁴ Group IV (3 cr.) EDU 401/SOL 312

The Bachelor of Arts in Education - Education of the Gifted

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B. Ed. - Education of the Gifted program prepares students to work with special pupils and answer to their particular needs. It also gives the student the necessary tools to challenge gifted pupils and to make their schooling not only pedagogically sound but also psychologically fulfilling.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
Communication Skills ENL 222, ENL 223	
Computer Skills CSC 201	
Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies.	
Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.	
Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.	
Core Requirements PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360	30 cr.
Major Requirements EDU 322, EDU 323, EDU 341, EDU 344, EDU 361, EDU 430, EDU 460, EDU 470, EDU 480	25 cr.
Students must choose 18 credits as described below:	18 cr.
<i>Group I:</i> EDU 330 or EDU 331 (3 credits)	
<i>Group II:</i> EDU 301 or EDU 311 or EDU 321 or EDU 324 or EDU 402 or EDU 413 or EDU 420 or EDU 421 or EDU 422 (12 credits)	
<i>Group III:</i> Group III: EDU 401 or EDU 412 (3 credits)	
Free Electives	5 cr.

**Bachelor of Arts in Education - Education of the Gifted
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ARB	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (15 Credits)

PSL	211	Psychology of the Young Child	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
EDU	213	Human Growth and Development	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
REG	—	GER	3 cr.

Fall Semester II (15 Credits)

EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
EDU	344	School Libraries	3 cr.
ENL	311	English Phonetics	3 cr.
STA	201	Statistics for Social Sciences	3 cr.

Spring Semester II (15 Credits)

EDU	311	Children's Literature	3 cr.
EDU	355	Methods of Teaching: Early Childhood	3 cr.
—	—	Group I ¹	3 cr.
—	—	Group II ²	6 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT	411	Aesthetics	3 cr.
or			
SOL	313	Family Violence and Child Abuse	
—	—	Free electives	3 cr.

Fall Semester III (15 Credits)

EDU	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 ¹	3 cr.
—	—	Group II ²	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	3 cr.
—	—	Free Elective	2 cr.

¹ Group I (3 cr.) EDU 330/331

² Group II (12 cr.) EDU 301/311/321/324/402/413/420/421/422

³ Group III (3 cr.) EDU 401/412

The Bachelor of Arts in Education - School Counseling

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B. Ed. - School Counseling program prepares students to work in schools and other educational institutions, assisting the pupils to better cope with their problems. This program, however, does not equip students for clinical counseling.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in both the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)		Number of Credits (cr.)
General Education Requirements		27 cr.
Communication Skills		
ENL 222, ENL 223		
Computer Skills		
CSC 201		
Cultural Studies		
9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.		
A religion course shall always be part of any 9 credits of cultural studies.		
Social Science Studies		
3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.		
Basic Science Studies		
6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.		
Core Requirements		30 cr.
PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360		
Major Requirements		25 cr.
EDU 212, EDU 302, EDU 311, EDU 324, EDU 344, EDU 402, EDU 420, EDU 451, EDU 487		
Students must choose 18 credits as described below:		18 cr.
<i>Group I:</i> EDU 322 or EDU 323 (3 cr.)		
<i>Group II:</i> EDU 330 or EDU 331 (3 cr.)		
<i>Group III:</i> EDU 355 or EDU 356 or EDU 357 (3 cr.)		
<i>Group IV:</i> EDU 413 or EDU 421 or EDU 422 or EDU 450 (6 cr.)		
<i>Group V:</i> EDU 351 or EDU 401 or EDU 412 (3 cr.)		
Free Electives		5 cr.

**Bachelor of Arts in Education - School Counseling
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ARB	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (15 Credits)

PSL	211	Psychology of the Young Child	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
EDU	213	Human Growth and Development	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
REG	—	GER	3 cr.

Fall Semester II (15 Credits)

EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
EDU	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 ¹	3 cr.
—	—	Group II ²	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
EDU	420	Crisis Intervention	3 cr.
HUT	411	Aesthetics:	3 cr.

or

SOL	313	Family Violence and Child Abuse	
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Fall Semester III (15 Credits)

EDU	324	Counseling in Special Education	3 cr.
EDU	402	Foundations of Counseling Services	3 cr.
—	—	Group III ³	3 cr.
—	—	Group IV ⁴	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (12 Credits)

EDU	451	Clinical Assessment in Schools	3 cr.
EDU	487	Counseling/Guidance Internship	1 cr.
—	—	Group IV ⁴	3 cr.
—	—	Group V ⁵	3 cr.
—	—	Free Elective	2 cr.

¹ Group I (3 cr.) EDU 322/323

² Group II (3 cr.) EDU 330/331

³ Group III (3 cr.) EDU 355/356/357

⁴ Group IV (6 cr.) EDU 443/421/422/450

⁵ Group V (3 cr.) EDU 351/401/412

The Bachelor of Arts in Education - Education of the Handicapped

The purpose of the undergraduate program in education comes in line with the University's commitment to serve the community around it, and with the national strategy of educational reform.

The B.A. Ed. - Education of the Handicapped program prepares students to work with the handicapped professionally, by providing them with the necessary methodology, techniques, and psychological background.

Graduation Requirements

To graduate, students must meet the General Education Requirements and successfully complete a total of 105 credits with a minimum overall GPA of 2.0/4.0 and a minimum average of 2.4/4.0 in both the core and major requirements. The 105 credits are divided into:

Degree Requirements (105 credits)	Number of Credits (cr.)
General Education Requirements	27 cr.
Communication Skills ENL 222, ENL 223	
Computer Skills CSC 201	
Cultural Studies 9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc. A religion course shall always be part of any 9 credits of cultural studies.	
Social Science Studies 3 credits in: Anthropology, Economics, History, Sociology, Political Science, Psychology, etc.	
Basic Science Studies 6 credits in: Archeology, Astronomy, Biology, Environmental Science, Geology, Health, Nutrition, etc.	
Core Requirements PSL 211, STA 201, ENL 311, HUT 411 or SOL 313, EDU 201, EDU 213, EDU 214, EDU 313, EDU 343, EDU 360	30 cr.
Major Requirements EDU 302, EDU 311, EDU 324, EDU 342, EDU 356, EDU 450, EDU 466, EDU 476, EDU 486	25 cr.
Students must choose 18 credits as described below:	18 cr.
<i>Group I:</i> EDU 330 or EDU 331 (3 credits)	
<i>Group II:</i> EDU 301 or EDU 321 or EDU 325 or EDU 344 or EDU 361 or EDU 412 or EDU 420 (12 credits)	
<i>Group III:</i> EDU 401 or SOL 312 (3 credits)	
Free Electives	5 cr.

**Bachelor of Arts in Education - Education of the Handicapped
Suggested Program (105 credits)**

Fall Semester I (15 Credits)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
EDU	201	Introduction to Education	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
ARB	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (15 Credits)

PSL	211	Psychology of the Young Child	3 cr.
ENL	223	Communication Arts (GER)	3 cr.
EDU	213	Human Growth and Development	3 cr.
NTR	201	Basic Human Nutrition (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

EDU	214	Youth in Contemporary Society	3 cr.
ENS	201	Introduction to Environmental Science (GER)	3 cr.
REG	—	GER	3 cr.

Fall Semester II (15 Credits)

EDU	302	Introduction to the Education of the Mentally Retarded	3 cr.
EDU	313	Psychology of Education: Learning	3 cr.
EDU	343	Classroom Management	3 cr.
ENL	311	English Phonetics	3 cr.
STA	201	Statistics for Social Sciences	3 cr.

Spring Semester II (15 Credits)

EDU	311	Children's Literature	3 cr.
EDU	324	Counseling in Special Education	3 cr.
EDU	342	Instructional Strategies for the Handicapped	3 cr.
—	—	Group I ¹	3 cr.
—	—	Group II ²	3 cr.

Summer Session II (9 Credits)

EDU	360	Instructional Technology	3 cr.
HUT	411	Aesthetics	3 cr.
or			
SOL	313	Family Violence and Child Abuse	
—	—	Group III ³	3 cr.

Fall Semester III (15 Credits)

EDU	356	Methods of Teaching: the Handicapped	3 cr.
EDU	466	Teaching of the Handicapped Practicum I	3 cr.
—	—	Group II ²	6 cr.
—	—	Free Elective	3 cr.

Spring Semester III (12 Credits)

EDU	450	Law and the Handicapped	3 cr.
EDU	476	Teaching of the Handicapped Practicum II	3 cr.
EDU	486	Teaching of the Handicapped Teaching Internship	1 cr.
—	—	Group III ³	3 cr.
—	—	Free Elective	2 cr.

¹ Group I (3 cr.) EDU 330/331

² Group II (12 cr.) EDU 301/321/325/344/361/412/420

³ Group III (3 cr.) EDU 401/SOL 312

The Bachelor of Physical Education and Sport

The Department of Education offers a program leading to a Bachelor degree in Physical Education and Sports. 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: **27 cr.**

Communication Skills

ENL 222, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

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

Basic Science Studies

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

Core Requirements **31cr.**

BIO 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 **3 cr.**

OPTION II: Physical Therapy and Kinesiology:

General Education Requirements: **27 cr.**

Communication Skills

ENL 222, ENL 223

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

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

Basic Science Studies

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

Core Requirements **31 cr.**

BIO 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 Electives **3 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.
—	—	GER	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 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.

Undergraduate Courses: Physical Education and Sports

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).

Students who score a "C" are entitled to enroll in ENL 105/109. A grade of "B" or higher entitles students to enlist in ENL 107/110. Students who earn a "D" will be allowed to repeat the Intensive English Program only once. Those who fail must seek English Instruction elsewhere.

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 Bachelor of Arts in English

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.

The Program has two concentration areas

1. Applied Linguistics
2. Literature

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:

The Bachelor of Arts in English - Applied Linguistics Degree Requirements (103 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	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.

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)

HUT	306	GER	3 cr.
LIR	213	Sur. of American Lit.	3 cr.
—	—	GER	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 Bachelor of Arts in English - Literature
Degree Requirements
(103 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

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.

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.
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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 Bachelor of Arts in Translation and Interpretership

The purpose of the major Translation and Interpretership is to prepare expert translators and interpreters meet the present and future demands of translation in the fields of law, economics, politics, diplomacy, the humanities, media and the arts.

The program is designed to refine students' linguistic skills in Arabic, English, and French. In this program, Arabic and English are the principal languages of translation.

Special skills include:

- developing verbal and written messages,
- developing proficiency in speech delivery with accurate pronunciation, intonation, tempo and rhythm.,
- acquiring the latest methods of translation, summary, reporting, analysis, and interpreting.,
- integrating knowledge and experience in the use of modern translation and interpreting equipment.,
- 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 108 credits 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. These credits are divided into:

Degree Requirements (108 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

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

16 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.

Language: ENL 311, ENL 313, FRN 222, LTN 201, LTN 202.

Education: EDU 201.

Journalism: JOU 314.

Psychology: PSL 201.

Translation: TRA 332.

Keyboarding: CSC 200 (Arabic Section).

**Bachelor of Arts in Translation and Interpretership
Suggested Program (108 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.
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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	1 cr.

Summer Session II (3 Credits)

—	—	Elective	3 cr.
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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/I	480	Inter. Internship	1 cr.
NT			

Fall Semester IV Emphasis (12 Credits)

TRA			12 cr.
/INT			

Master of Arts in English Literature

This program is intended to crystallize students' expertise in English studies and to augment their exposure to contextual areas of the discipline. The techniques and fields of research are set to provide students with opportunities either to pursue their Ph.D.s, or engage in a research or teaching career.

Graduation Requirements

To satisfy the requirements for the Master of Arts in English Literature, the student must complete 30 credits with an overall average of 3.0/4.0 and must either submit and defend a thesis or take six credits. Over and above these requirements, a candidate must take a three non-credit course in a third language. The required credits are divided into:

Major Requirements			15 cr.
ENL	601	Bibliography and Method. of Research	3 cr.
LIR	601	History of the English Language	3 cr.
LIR	621	English Literature, 1500-1660 (exclusive of Milton)	3 cr.
LIR	631	English Fiction to 1800	3 cr.
LIR	641	American Literature 1609-1800	3 cr.
Electives			9 cr.
ENL	603	College Linguistics	3 cr.
LIR	602	College Literature	3 cr.
LIR	611	English Drama	3 cr.
LIR	612	Jacobean and Restoration Drama	3 cr.
LIR	613	Applied Ling. in Syllabus Design and Mater. Develop.	3 cr.
LIR	614	Modern English and American Drama	3 cr.
LIR	615	Irish Drama	3 cr.
LIR	622	English Literature 1660-1790	3 cr.
LIR	623	English Literature 1790-1900	3 cr.
LIR	624	Modern British Poetry	3 cr.
LIR	625	Modern American Poetry	3 cr.
LIR	632	English Fiction 1800-1900	3 cr.
LIR	633	Contemporary Fiction	3 cr.
LIR	642	American Literature 1800-1900	3 cr.
LIR	651	Literary Criticism	3 cr.
LIR	652	Literary Trends and Movements	3 cr.
LIR	661	Major Literary Figures	3 cr.
LIR	662	World Literature	3 cr.
LIR	682	Seminar in Selected Topics	3 cr.
LIR	699	Thesis/or 2 courses	6 cr.

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 Master of Arts in Translation/Interpretership

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 as determined 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.

THE MASTER OF ARTS IN INTERPRETERSHP

Major Requirements

30 cr.

Complete the following required courses:

TRA 610, TRA 620, TRA 621, TRA 622, TRA 630, INT 610, INT 620, INT 621, INT 622

Electives

6 cr.

Choose 2 of the following:

ENL 611, LIR 601, LIR 662, INT 610, or any two 600 level BAD, COA or IAF courses.

Undergraduate Courses: English

ENL 001 Intensive English I (20.0); 0 cr.
Designed to raise students' level of English to university standards.

analysis and argumentation. A properly documented paper is required. *Prerequisite:* ENL 107 or Placement.

ENL 002 Intensive English II (15.0); 0 cr.
Designed to improve the students' level of English and to prepare for University.

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 105 Freshman English I (5.0); 5 cr.
Designed to introduce students to academic English. All forms of expository paragraph writing are practiced.

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 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 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 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 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 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 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 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 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 222 Sophomore Rhetoric (3.0); 3 cr. Aims at refining the student's use of critical

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: Languages

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.

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.

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

LTN 201 Latin I (3.0); 3 cr. Explanation of the different characteristics of the Latin language.

LTN 202 Latin II (3.0); 3 cr. Continuation of LTN 201. Emphasis on writing and reading.

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: 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: 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, Austen, 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); 3 cr. This course gives a definition of the term "Orientalism" and traces the germination and development of Oriental scholarship in England ever since the medieval period and up to the nineteenth century.

LIR 314 Creative Literary Writing (3.0); 3 cr. Workshop course in the writing of literary pieces, fictional and poetic, emphasizing discussion of student work. *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 cr. 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: 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 Contemporary Texts (3.0); 3 cr. Familiarizes students with different genres and contemporary 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; (3.0) 3 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; (3.0) 3 cr. Focuses on intensive practice in translating English cultural texts into Arabic. *Prerequisite:* TRA 421.

TRA 433 Translation of Cultural Texts III (3.0); 3 cr. Focuses on intensive practice in translating Arabic cultural texts into French. *Prerequisite:* TRA 422.

TRA 434 Translation of Culture Texts IV (3.0) 3 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 603 Linguistics (3.0); 3 cr. A study of major trends and methodologies in linguistics.

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 History of the English Language (3.0); 3 cr. An advanced study of the English language: its history, nature, structure, and development.

LIR 602 Literature (3.0); 3 cr. A thematic, analytic, and generic study of literature.

LIR 611 English Drama to 1590 exclusive of Shakespeare (3.0); 3 cr. A study of English drama, its history and subgenres from early church performance to 1590.

LIR 612 Jacobean and Restoration Drama (3.0); 3 cr. Extensive reading of Jacobean and Restoration drama. *Prerequisite:* LIR 601

LIR 613 Shakespeare (3.0); 3 cr. A comprehensive survey of Shakespeare's plays. *Prerequisite:* LIR 611.

LIR 614 Modern English and American Drama (3.0); 3 cr. Analysis of dramatic works by major British and American playwrights.

LIR 615 Irish Drama (3.0); 3 cr. Analysis of the rise of Irish Drama.

LIR 621 English Literature 1500-1600 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 621, LIR 622.

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); 4 cr. An advanced course with emphasis on U.N. agencies, education and development texts.

INT 621 Conference II ARB/FRC (4.0); 4 cr. Terminology and intensive practice in all aspects of medical translation and relevant scientific concepts.

INT 622 Conference III ARB/ENL (4.0); 4 cr. Terminology and intensive practice in science and technology related to Middle East development.

TRA 610 Advanced English Writing (3.0); 3 cr. Fine points of English writing including: clarity, accuracy style, proofreading and revision.

TRA 620 Linguistics for Translation Students (3.0); 3 cr. The nature and structure of language, its role in society, the theory and methods of linguistics: phonology, syntax, semantics and lexicon as applied in translation.

TRA 621 Comparative Stylistics for Translation (3.0); 3 cr. Presentation and analysis of texts related to interlinguistic transfer. Intensive workshop approach treating

both English/Arabic and French/Arabic texts.
Prerequisite: TRA 620.

TRA 622 Terminology ARB/ENL (3.0); 3 cr. History of Terminology. The terminologist's task. Terminographics research methods. Use of documentation. Practical work in term research and subject field research.

TRA 630 Computer Assisted Translation (3.0); 3 cr. Computer aids for translation, desktop publishing, terminology management. Machine and machine-assisted translation.

TRA 631 Advanced Translation of Literature ARB/ENL (3.0); 3 cr. Study and analysis of translated works. Translation into Arabic of a work which was not translated before.

TRA 632 Advanced Translation of Literature ARB/FRC (3.0); 3 cr. Study and analysis of translated works. Translation into Arabic of work which was not translated before.

TRA 633 Advanced Legal Translation ARB/ENL (2.0); 2 cr. Translation of highly specialized legal texts.

TRA 634 Advanced Legal Translation ARB/FRC (2.0); 2 cr. Translation of highly specialized legal texts.

TRA 635 Advanced Business & Economic Texts ARB/ENL (2.0); 2 cr. Translation of highly specialized business, economic, and administrative texts.

TRA 636 Advanced Business & Economic Texts ARB/FRC (2.0); 2 cr. Translation of highly specialized business, economic, and administrative texts.

TRA 637 Advanced Medical Translation ARB/FRC/ENL (2.0); 2 cr. Medical terminology and phraseology which would allow the translator to correctly translate medical texts. Relevant basic scientific concepts.

TRA 638 Advanced Translation of Media ARB/ENL (2.0); 2 cr. Translation of various genres of media.

TRA 639 Advanced Translation of Media ARB/FRC (2.0); 2 cr. Translation of various genres of media.

TRA 690 Internship (1.0); 1 cr. A supervised practicum designed to allow students to put their knowledge of translation and terminology to work in an actual translation service.

DEPARTMENT OF MASS COMMUNICATION

Chairperson: *Dr. Khalid Fakh*

Secretary: *Mrs Wassil Chemali*

Associate Professor

Fakh, 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 Communication

Today we communicate through newspapers, magazines, radio, television, public relations, advertising, photography, and other media.

The Department prepares students for a career in mass communication. It offers specific sequences in print, electronic media, and advertising and marketing, leading to the degrees of:

Bachelor of Arts in Advertising and Marketing

Bachelor of Arts in Communication Arts with concentrations in Journalism

Bachelor of Arts in Communication Arts with concentrations in Radio/TV

Master of Arts in Media Studies with emphasis areas in:

Advertising

Electronic Media

Journalism

The 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.**

Communication Skills

ENL 222, ENL 232

Computer Skills

CSC 201

Cultural Studies

9 credits in: Arabic, Art, Cultural Sequence, Music, Philosophy, Religion, Western Literature, etc.

A religion course shall always be part of any 9 credits of cultural studies.

Social Science Studies

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

Basic Science Studies

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

Core Requirements **24 cr.**

COA 201, COA 223, COA 252, COA 359,
COA 450, 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:

ADM 351, 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.**

**Bachelor of Arts in Advertising and Marketing
Suggested Program (105 Credits)**

Fall Semester I (15 Credits)

COA	201	Mass Media Essentials	3 cr.
ENL	222	Sophomore Rhetoric (GER)	3 cr.
MRK	201	Fundamentals of Marketing	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (16 Credits)

ADM	216	Principles of Advertising	3 cr.
COA	223	Speech Communication	3 cr.
COA	270	Studio Workshop I	1 cr.
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	3 cr.
COA	450	Mass Communication Research	3 cr.
COA	475	Computer Graphics and Video Animation	3 cr.
MRK	321	Promotional Strategy	3 cr.
ADM	481	Internship	1 cr.
—	—	GER	3 cr.

Spring Semester III (16 Credits)

ADM	490	Senior Study in Advertising	3 cr.
MRK	433	Marketing Strategies & Policies	3 cr.
—	—	Free Electives	4 cr.
—	—	pool course	3 cr.
—	—	GER	3 cr.

The 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.
Communication Skills ENL 222, ENL 232	
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 COA 201, COA 223, COA 252, COA 359, COA 450, PHO 201, STA 201, ARB 212	24 cr.
Major Requirements 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: ADM 216, ADM 351 COA 205, COA 240, COA 270, COA 311, COA 312, COA 360, COA 368, COA 369, COA 415, COA 499, POS 212.	40 cr.
Free Electives	4 cr.

**Bachelor of Art in Communication Arts Journalism
Suggested Program (104 Credits)**

Fall Semester I (15 Credits)

COA	201	Mass Media Essentials	3 cr.
ENL	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	Newswriting and Reporting I	3 cr.
JOU	325	Photojournalism	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits)

COA	352	Mass Media Law (Arabic)	3 cr.
JOU	340	PR Techniques	3 cr.
JOU	370	Newspaper Production	2 cr.
TRA	201	Trans. Theory and Methodology	3 cr.
—	—	Free Elective	4 cr.

Summer Session II (7 Credits)

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 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.
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 COA 201, COA 223, COA 252, COA 359, COA 450, PHO 201, STA 201, ARB 212	24 cr.
Major Requirements 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:	45 cr.
ADM 216, ADM 351, COA 350, COA 352, COA 360, COA 365, COA 368, COA 369, COA 499, JOU 210, JOU 310, JOU 325, JOU 340, JOU 460, POS 350, TRA 201, VIA 224	6 cr.
Free Electives	4 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.
STA	201	Statistics for Social Sciences	3 cr.
—	—	GER	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.
COA	480	Communication Internship	1 cr.
—	—	GER	3 cr.
—	—	Free Elective	4 cr.

The Master of Arts In Media Studies

The department of Mass Communication offers the Master's of Arts degree in Media Studies with a choice of concentration in the areas of Advertising, Journalism/PR and Electronic Media. Specific requirements depend on the interest of the student and the recommendations of the advisor and the department.

The program provides students with conceptual and analytical tools and practical experience in order to prepare them to pursue careers in communication, to further academic enhancement at the doctoral level, and to help those already working in those fields upgrade their knowledge in their chosen area of study.

Admission Requirements:

The program admits students holding Bachelor degrees in any of the areas listed above as well as those holding degrees in other majors.

Students from non related majors must take and pass a number of preparatory courses (a maximum of three courses) which the department deems necessary to pursue a Master of Arts in Media Studies.

Candidates must have a GPA of 3.0, but those with a lower GPA (no less than 2.7) might be admitted on a probationary basis and they must amass a GPA of 3.0 in their first semester in order to continue in the program.

Candidates must also submit three letters of recommendations, an updated C.V., and a personal statement explaining their educational goals and reasons for selecting this area of study. Other university graduate admission requirements may apply as specified by this catalog.

Graduation Requirements:

All students must take a total of 15 credits in the general field of Mass Communication in addition to 15 credit-hours in the concentration area. The remaining three credits will be selected from a pool of courses offered by the program.

Students may choose between writing a 6 credit Thesis or taking two extra courses offered by the M.A. program which will bring the total to 39 hours required for graduation.

Students must maintain an overall GPA of 3.0/4.0 for the 39 credits required to graduate. Courses are divided into:

Degree Requirements (39 credits)

Plan One: Communication Major:

A- Thesis Option

Core Courses **15 cr.**

COA 610, COA 652, COA 680, COA 681, and JOU 631

Major Requirements for Advertising Emphasis

ADM 620, ADM 621, ADM 650, ADM 651, ADM 681. 15 cr

ADM 690 6 cr.

Free Electives 3 cr.

For Journalism Emphasis

JOU 610, JOU 620, JOU 621, JOU 630, JOU 650 15 cr.

JOU 690 Thesis 6 cr.

Free Electives 3 cr.

For Electronic Media Emphasis

COA 611, COA 620, COA 630, COA 650, COA 651 15 cr.

COA 690 Thesis 6 cr.

Free Electives 3 cr.

Note: The 6-hour thesis may be replaced with a major TV or video production for those who select Electronic Media as their area of emphasis. Arrangements will be made with student's advisor and the department.

B- Non-Thesis Option:

Students are required to take two extra courses offered by the M.A. program in lieu of the 6-credit Thesis and pass a written comprehensive examination.

Plan Two: for non-Communication Majors

Same description above, but students will be required to take three additional prerequisite courses from the following and score a minimum grade of B⁻:

ADM 216, ADM 341, COA 201, COA 252, COA 312, and JOU 310.

Courses will be selected upon consultation with the advisor and the department's chairperson. students in this category also may choose either a Thesis or a non-Thesis option as outlined above.

Undergraduate Courses: Advertising

ADM 216 Principles of Advertising (3.0); 3 cr. The field of advertising and its relationship to marketing and mass media. Elements of successful ads. *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 351 E-Commerce (3.0) 3cr. The focus is on today's electronic market environment. Students are to develop proficiencies with the interactive business and communication technologies and must hold, or have access to e-mail accounts. *Prerequisite:* CSC 201

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 Courses: 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 programming. *Prerequisite:* 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: Media Studies

ADM 620 Advertising & Marketing Management (3.0); 3 cr. The course examines the general array of agency's personnel and entails the functions of each department including the duties and responsibilities of key decision-makers in the agency.

ADM 621 Seminar in Integrated Marketing Communication: (3.0); 3 cr. The course applies the theories of integrated communication tools such as marketing, advertising, public relations, e-commerce and others. It also looks at IMC's usage, management, and limitations. *Prerequisite:* ADM 620.

ADM 650 Advanced Media Planning (3.0); 3 cr. Discussion of up-to-date media planning theories and concepts and their implications in the modern media systems. Also it tackles the

effects of horizontal and vertical media planning. *Prerequisite:* ADM 621.

ADM 651 Advanced Creative Strategy in Advertising (3.0); 3 cr. Social science findings as guides for effective creative process by devising advertising message content using various creative approaches. Advanced writing and production of advertising messages for various media. Use of consumer behavior concepts in shaping advertising messages and improving media selection. *Prerequisite:* ADM 621.

ADM 660 Independent Study(3.0); 3 cr. *Prerequisite:* written proposal and approval of instructor. Topic takes into consideration the instructor's specialization and the student's interest. Requires completion of research paper.

ADM 681 Seminar in Advertising and Society(3.0); 3 cr. Role of advertising in cultural, economic and communication contexts. Actual campaigns and their implications in the modern world. Also, includes the studies of Linguistics and Semantics in advertising. *Prerequisite:* COA680.

ADM 690 Thesis(6.0); 6cr. A specific research on a significant topic selected by the candidate upon consultation with advisor.

COA 610 Theories of Mass Communication (3.0); 3 cr. Studies various theories that explain the origins, developments, uses, abuses and effects of communication messages and explains the relationship between theoretical concepts and their application. Areas of study include media and violence, agenda-setting theory, uses and gratifications approach, etc...

COA 611 Issues in Communication Technology (3.0); 3 cr. Study of new technology and its actual and potential repercussions on media messages, the communication process and on society at large. Issues include restructuring and redefining the mass media and the characteristics of the emerging technologies. *Prerequisite:* COA 610.

COA 620 Comparative Broadcasting (3.0); 3 cr. A study of global electronic media systems. A comprehensive examination of rules governing the regulations and flow of programming between nations. Also study of the new satellite and transmission systems. *Prerequisite:* COA 611.

COA 630 Broadcast Station Management (3.0); 3 cr. Study of the problems of management, programming, sales, promotion, and marketing. Exploration of issues such as decision-making, news evaluation, budgeting in both commercial and noncommercial broadcast media. *Prerequisite:* COA 610 and COA 611.

COA 631 Media and Politics: (3.0); 3 cr. The impact of mass media on the political process especially in democratic societies. The interplay of influence between the two. Role of media consultants is also examined. *Prerequisite:* COA 610.

COA 650 Advanced Video Production (3.0); 3 cr. Examination of aesthetic decisions and skills in the planning and production of television programs: initial research through writing, to final production. Students are expected to develop and execute several programs for television.

COA 651 Advanced Electronic Newsgathering and Reporting (3.0); 3 cr. Real life experiences in gathering, writing, editing, and presenting news for the electronic media. Also, website reporting and various sources of news and information will be examined. *Prerequisite:* COA 610, and COA 650.

COA 652 Advanced Research Methods in Mass Communication (3.0); 3 cr. Techniques for study of communication content and messages, audiences and effects. Emphasis on Research methods, and the data gathering, sampling and the application of those methods in Mass Communication and Advertising. *Prerequisite:* COA 610.

COA 660 Independent Study (1.0 - 4.0); 1 cr.-4 cr. *Prerequisite:* written proposal and approval of instructor and Guidance Committee. Topic takes into consideration the instructor's specialization and the student's interest. Requires completion of research paper.

COA 680 Seminar in Mass Communication Law and Ethics (3.0); 3 cr. Study of legal and ethical controls of media such as government's regulations of the media and other Lebanese "taboos." Codes of ethics and traditional societal or self-imposed guidelines that govern the performance of the media will be addressed. Incorporated in this course is the Catholic church's stand on the legal and ethical functions of the mass media. *Prerequisite:* COA 610.

COA 681 Seminar in Cross-Cultural Communication (3.0); 3 cr. The study of the impact of culture, norms, languages and values on the shaping and the perception of communication messages within and across national and international boundaries. Issues may include verbal and non-verbal communication, and others. *Prerequisite:* COA 610.

COA 682 Seminar on the Lebanese Media (3.0); 3 cr. An in-depth survey of the Lebanese media (both print and broadcast). Areas include history, economics, and trends. The course examines current figures and issues peculiar to the Lebanese media.

COA 690 Thesis: (6.0); 6 cr. A specific research on a significant topic in the field selected by the candidate upon consultation with his/her advisor.

JOU 610 Newsroom Management (3.0); 3 cr. Internal management of newspaper operation, status of personnel, effects of technological developments, news decision-making, defining objectively and improving news coverage.

JOUR 620 The Art of Interviewing (3.0); 3 cr. Techniques and tools gathering information from News sources.

JOUR 621 Editorial Operation (3.0); 3 cr. Discussion of decision-making process in the newsroom. Various elements influencing the day-to-day operation of the print media. Roles of owners, gatekeepers are examined. (Pre-requisite JOU 610).

JOUR 630 PR Programs and Campaigns (3.0); 3 cr. Overall planning and operation of PR programs by various industries and institutions. Analysis and discussions of specific problems in real-life cases.

JOUR 631 International Public Relations (3.0); 3 cr. Discussion of the role of public relations in the new age of global marketing and communication. Issues include global campaigns, international corporate PR and Cyberspace public Relations. (Pre-requisite 610)

JOUR 650 Advanced Reporting and Newswriting (3.0); 3 cr. In-depth Reporting: theory and practice. Investigative and interpretative reporting. Also, examines most recent means of gathering information and data needed to produce thorough, well-written journalistic work. *Prerequisites:* JOU610 and JOU 620.

JOUR 680 Seminar in Selected Topics (3.0); 3 cr. Discussion of various topics such as freedom of press, Media and gender, and other topics.

JOUR 690 Thesis (6.0); 6 cr. A specific research on a significant topic selected by the candidate upon consultation with the advisor.

DEPARTMENT OF SOCIAL AND BEHAVIORAL SCIENCES

Chairperson: *Dr. Doumit Salameh*

Secretary: *Mrs. Nancy Khoury Jurdi*

Visiting Emeritus

Akl, Said Poet and Philosopher

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

Karam, Clovis, Ph.D. ,1984, Université Catholique de Lyon, Lyon, France.

Scholastic Philosophy

¹*Matar, Suhail*, C.A.P.E.S.,1969, Université Libanaise, Lebanon

Arabic Language and Literature

Sabieh, Christine, Doctorate 1^{ère} Catégorie, 1998, Université du Saint-Esprit Kaslik, Lebanon

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

philosophy of Education/Minor counseling psychology

Senior Lecturer

Abou-Jawdeh, Simon, D.E.S., 1992, *Psychology*, Université Libanaise, Lebanon

Chamoun, Imad. D.E.A., 1994, Université du Saint-Esprit Kaslik, Lebanon.

Philosophie

Lecturer

Wehbe, Boulos (Marwan), M.A., 1981, American University of Beirut, Lebanon.

Middle Eastern Studies

The Department 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.

¹ On tenure appointment

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 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 ARB 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

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 Requirements

In order to be admitted to the Master program, candidates must fulfill the following:

1. hold a Bachelor degree in Arabic Language and Literature from a recognized institution of higher learning.
2. comply with NDU rules and regulations for graduate work
3. sit for the Arabic Entrance Test offered by NDU.
4. provide three letters of recommendation.

Graduation Requirements

Students seeking the degree of Master of Arts in Arabic Language and Literature must meet the University graduation requirements and complete a total of 30 credits with a minimum overall average of 3.0/4.0. Courses are divided into:

**Degree Requirements
(30 credits)**

Major Requirements

ARB 601, ARB 611, ARB 612, ARB 613, ARB 614, ARB 621, ARB 699

24 cr.

Free Elective

ARB 622, ARB 623, ARB 624, ARB 631, ARB 632, ARB 633, ARB 634, ARB
641

6 cr.

Bachelor of Arts 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 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 222, 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 **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.

Major Requirements

45 cr.

PSL 201, SOL 201, MAT 202, STA 201, PSL 211, PSL 217, PSL 317, PSL 319, PSL 413, PSL 481, PSL 491, PSL 321, PSL 415, PSL 411, PSL 417

Free Electives

4 cr.

Concentration – Clinical

30 cr.

PSL 310, PSL 315, PSL 213, PSL 230, PSL 382, PSL 484, PSL 215, PSL 345, PSL 320, PSL 323

Concentration – Industrial

30 cr.

PSL 322, BAD 201, PSL 362, PSL 323, PSL 332, BAD 317, PSL 386, PSL 215, BAD 427, PSL 424

Concentration – Educational

30 cr.

PSL 313, PSL 315, PSL 213, PSL 324, EDU 422, EDU 350, EDU 330 (EDU 331, EDU 332 or EDU 333), PSL 386, EDU 355, PSL 345

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, Clinical Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (16 cr.)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Mathematics for Arts	3 cr.
CSC	201	Computers & their use	3 cr.
SOL	201	Introduction to Sociology (GER)	3 cr.
PSL	201	Introduction to Psychology (GER)	3 cr.

Spring Semester I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
STA	201	Stat. for Social Sciences Using SPSS	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	217	Psychology of Personality	3 cr.
PSL	413	History and Systems of Psychology	3 cr.

Summer Semester I (6 cr.)

—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester II (15 cr.)

PSL	315	Sensation and Perception	3 cr.
PSL	317	Cognitive Psychology	3 cr.
PSL	319	Abnormal Psychology	3 cr.
PSL	310	Psychology of the Family	3 cr.
—	—	General Education Requirement	3 cr.

Spring Semester II (15 cr.)

PSL	213	Psychology of Learning	3 cr.
PSL	321	Experimental Psychology	3 cr.
PSL	230	Theories of Psychotherapy	3 cr.
PSL	415	Intelligence Testing	3 cr.
PHL	311	Ethics and the Modern World	3 cr.

Summer Semester II (9 cr.)

PSL	382	Practicum I: Clinical	3 cr.
—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	484	Practicum II: Clinical	3 cr.
PSL	215	Social Psychology	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.
PSL	323	Dviance	3 cr.

Spring Semester III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
PSL	345	Counseling Psychology	3 cr.
PSL	320	Psychopathology	3 cr.
—	—	Free Elective	3 cr.

**Bachelor of Arts in Psychology - Educational Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (16 cr.)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Mathematics for Arts	3 cr.
CSC	201	Computers and their Use (GER)	3 cr.
SOL	201	Intro. to Sociology	3 cr.
PSL	201	Intro. to Psychology	3 cr.

Spring Semester I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
STA	201	Stat. for Soc. Scs. Using SPSS (GER)	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	217	Psychology of Personality	3 cr.
PSL	413	History and Systems of Psychology	3 cr.

Summer Semester I (6 cr.)

—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester II (15 cr.)

PSL	313	Psychology of Adolescence	3 cr.
PSL	315	Sensation and Perception	3 cr.
PSL	317	Cognitive Psychology	3 cr.
PSL	213	Psychology of Learning	3 cr.
PSL	324	Educational Psychology	3 cr.

Spring Semester II (15 cr.)

PSL	321	Experimental Psychology	3 cr.
PSL	319	Abnormal Psychology	3 cr.
EDU	422	Test, Measurement and Evaluation	3 cr.
EDU	350	Methods of Teaching: Elementary	3 cr.
EDU	330	Curriculum Development and Evaluation: Elementary OR/	3 cr.
EDU	—	EDU 331, EDU 332, EDU 333	3 cr.

Summer Semester II (9 cr.)

—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	386	Practicum I: Educational	3 cr.
PSL	415	Intelligence Testing	3 cr.
PHL	311	Ethics and the Modern World (GER)	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.

Spring Semester III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
PSL	345	Counseling Psychology	3 cr.
EDU	355	Education and the Lebanese Law	3 cr.
—	—	Elective	3 cr.

**Bachelor of Arts in Psychology - Industrial Psychology Concentration
Suggested Program (106 credits)**

Fall Semester I (16 cr.)

ENL	222	Sophomore Rhetoric (GER)	3 cr.
CSC	200	Keyboarding (GER)	1 cr.
MAT	202	Mathematics for Arts.	3 cr.
CSC	201	Computers and their Use (GER)	3 cr.
SOL	201	Intro. to Sociology (GER)	3 cr.
PSL	201	Intro. to Psychology (GER)	3 cr.

Spring Semester I (15 cr.)

ENL	223	Communication Arts (GER)	3 cr.
STA	201	Stat. for Soc. Scs. Using SPSS	3 cr.
PSL	211	Psychology of the Young Child	3 cr.
PSL	217	Psychology of Personality	3 cr.
PSL	413	History and Systems of Psychology	3 cr.

Summer Semester I (6 cr.)

—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester II (15 cr.)

PSL	317	Cognitive Psychology	3 cr.
PSL	319	Abnormal Psychology	3 cr.
PSL	322	Industrial Psychology	3 cr.
PSL	362	Psychology Work and Law	3 cr.
BAD	201	Fundamentals of Management	3 cr.

Spring Semester II (15 cr.)

PSL	321	Experimental Psychology	3 cr.
PSL	323	Deviance	3 cr.
PSL	332	Personnel and Human Factors in the Work Community	3 cr.
EDU	34	Methodology (EDU 341/2/3/4 or 5)	3 cr.
BAD	317	Organizational Behaviour	3 cr.
PHL	311	Ethics and the Modern World (GER)	3 cr.

Summer Semester II (9 cr.)

PSL	386	Practicum I: Industrial	3 cr.
—	—	General Education Requirement	3 cr.
—	—	General Education Requirement	3 cr.

Fall Semester III (15 cr.)

PSL	411	Stress: Causes, Consequences and Management	3 cr.
PSL	215	Social Psychology	3 cr.
PSL	415	Intelligence Testing	3 cr.
PSL	481	Undergraduate Seminar in Psychology	3 cr.
—	—	General Education Requirement	3 cr.

Spring Semester III (15 cr.)

PSL	417	Personality Assessment	3 cr.
PSL	491	Special Topics in Psychology	3 cr.
BAD	427	Human Resource Management	3 cr.
PSL	424	Community Psychology	3 cr.
—	—	Free Elective	3 cr.

Undergraduate Courses: Arabic Courses

ARB 101 Arabic Essay Reading and Writing I (3.0); 3 cr. Concentrates 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 Grammar (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 learning, 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 230 Theories of Psychotherapy (3.0); 3 cr. This course places an emphasis on understanding the theories and techniques of psychotherapy. Topics considered: individual, family and group therapy.

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 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 PSL 317.

PSL 322 Industrial Psychology (3.0); 3 cr. applies a socio-psychological approach to an individual in a work setting. Topics discussed include management in an organization to promote productivity, change, role definition, 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 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 345 Counseling Psychology (3.0); 3 cr. how to prevent psychological crisis is the main purpose of this course. Different practices of different schools of psychology are explored, e.g., behaviorism, psychoanalysis, phenomenology, the rational emotive therapy and other contemporary theories. *Prerequisite:* Senior Standing

PSL 362 Psychology Work and Law (3.0); 3 cr. This course provides an introduction to the application of psychological methodology and research on practical and applied problems. Areas concerned include marketing, advertising, management and law. The psychological human factors serve as the background to this course. *Prerequisite:* PSL 201

PSL 382 Practicum I: Clinical (1.3); 3 cr. provides a student with supervised work experience within his 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 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, from 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 from the early Renaissance Age until the end of World War I, focusing on the transformation stages.

ARB 641 Arabic Dictionaries (3.0); 3 cr. Introduction to Arabic Lexicography. An in-depth study of one dictionary identifying its special characteristics and its relation to other dictionaries.

ARB 699 Thesis (6.0); 6 cr. Preparation of a thesis with the help of an advisor. The themes and conditions of the thesis are defined in accordance with the requirements set for the Master degree.

FACULTY OF NATURAL AND APPLIED SCIENCES (FN&AS)

Dr. Jean Fares, *Dean*

DEPARTMENT OF COMPUTER SCIENCE

Dr. Hoda Maalouf, *Chairperson*

DEPARTMENT OF MATHEMATICS AND STATISTICS

Dr. Amer Jajou, *Chairperson*

Actuarial Science and Insurance Program

Mrs. Claudia Freiji Bou Nassif, *Academic Advisor*

DEPARTMENT OF SCIENCES

Dr. Doris Jaalouk, *Chairperson*

Freshman Science Program

Dr. Roger Hajjar, *Academic Advisor*

FACULTY DIRECTORY

Office of the Dean

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Tel: 09-218-950/51/52 Extension 2109
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Department of Mathematics & Statistics

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

FN&AS Building, 3rd floor, Room S 306
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Department of Sciences

FN&AS Building, 3rd floor, Room S 306
Tel: 09-218-950/51/52 Extension 2113
e-mail: environment@ndu.edu.lb

Actuarial Science & Insurance Program

FN&AS Building, 2nd floor, Room S 214
Tel: 09-218-950/51/52 Extension 2093
e-mail: cnassif@ndu.edu.lb

Freshman Science Program

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

Associate Professors

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

Assistant Professors

Dib, Robert, Doctorate, 1998, *Biochemistry*, Université de Nante, France

El-Khalidi, 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, *Plant Biochemistry and Molecular Biology*, Pennsylvania State University, USA

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

Haroun, Michelyne, Doctorate, 2001, *Chemistry*, Université René Descartes – Paris V, France

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

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

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

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

Khalaf-Kayrouz, Leila, Ph.D., 1995, *Environmental Geology*, Westfälische Wilhelms-Universität, Germany

Maalouf, Hoda, Ph.D., 1998, *Computer Engineering*, University of London, England

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

Naboulsi Rami, Doctorate, 2001, *Mathematical Physics*, Provence University, France

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

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

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

Saliba, Holem, Ph.D., 1997, *Mathematics*, Moscow State University, Russia

Shahin, Ahmad, Doctorate, 1998, *Computer Science*, La Rochelle University, France

Yahia, Najat, Ph.D., 1996, *Nutrition*, Kings College, London, England

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

¹ On tenure appointment

Bou Nassif, Claudia Freiji, M.S., 1991, *Applied Statistics*, Ohio State University, USA
Hajjar, Theresa, M.P.H., *Biostatistics*, 1994, American University of Beirut, Lebanon
Hawi, Nazir, M.S., 1991, *Business Management*, Lebanese American University, Lebanon

Instructor

Soueid, Amine, M.S. 2001, Notre Dame University, Lebanon

Laboratory Instructors and Research Assistants

Maalouf, Nada, M.S., 1996, *Microbiology*, American University of Beirut, Lebanon
El-Hage, El-Amm, Rita, M.S., 1988, *Public Health*, American University of Beirut, Lebanon

Laboratory Assistant

Saliba, Elizabeth, B.S., 1999, *Biology*, Lebanese University, Lebanon

List of Staff Members

Atallah, Victoria, *Administrative Assistant*, Faculty of Natural and Applied Sciences
Certificat d'Informatique, 1984, Université de Montréal
Nakad, 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
Abboud, Danielle, *Secretary*, Department of Sciences
Executive Secretarial Program, 1997, American Universal College, Lebanon
Youssef, Sana', *Printing Officer*, Faculty of Natural and Applied Sciences

Typing and Keyboarding Center

Hajj, Amal, *Supervisor*

FACULTY OF NATURAL AND APPLIED SCIENCES

Dean: *Dr. Jean Fares*

Secretary: *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 best up-to-date 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
- Core and Major Requirement.
- Free Elective Requirements.

Undergraduate Degrees

The **Department of Computer Science** offers undergraduate programs leading to the degrees of:

- ¹BS in Business Computing (90 Credits).
- BS in Computer Science (104 Credits).
- BS in Computer Science (²CIS) (103 Credits).
- BS in Computer Science (³CGA) (108 Credits).
- BS in Geographical Information Science (92 Credits).

¹ Bachelor of Science

² Computer Information System

³ Computer Graphics & Animations.

The **Department of Mathematics and Statistics** offers undergraduate programs leading to the degrees of:

- BS in Actuarial Science and Insurance (112 Credits).
- BS in Applied Statistics (91 Credits).
- BS in Mathematics (103 Credits).

The **Department of Sciences** offers undergraduate programs leading to the degrees of:

- BS in Biology (102 Credits).
- BS in Chemistry (98 Credits)
- BS in Environmental Science (104 Credits).
- BS in Medical Laboratory Technology (103 Credits).
- BS in Nutrition (94 Credits)
- BS in Nutrition and Dietetics (114 Credits)
- 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 graduate programs in computer science and mathematics that lead to the degrees of

- Master of Science (MS) in Computer Science.
- Master of Science (MS) in Computer Information System
- Master of Science in Mathematics

This graduate program has two options: Course work option and thesis option..

Program Titles	Degrees & Certificates	Credits
Actuarial Science and Insurance	BS	112
Applied Statistics	BS	91
Biology	BS	102
Business Computing	BS	90
Chemistry	BS	98
Computer Science	BS	104
	MS	30
Computer Science (CIS)	BS	103
	MS	30
Computer Science (CGA)	BS	108
Environmental Science	BS	104
Freshman Science	Certificate	32
Geographic Information Science	BS	92
Mathematics	BS	103
	MS	33
Medical Laboratory Technology	BS	103
Nutrition	BS	94
Nutrition and Dietetics	BS	114
Physics	BS	94

DEPARTMENT OF COMPUTER SCIENCE

Chairperson: *Dr. Hoda Maalouf*

Secretary: *Mrs. Rita Sawaya*

Assistant Professors

El-Khalidi, 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, Hoda, Ph.D., 1998, University of London, England
Digital Communications, Computer Networks, Computer Architecture.

Shahin, Ahmad, Doctorate, 1998, Computer Science, Université de La Rochelle, France
Automatic and Computer Engineering.

Rifi Omar, Doctorate, 2000, Computer Science, Université Paul Sabatier, France
Artificial Intelligence.

Senior Lecturers

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

Rizk, Nouhad, D.E.S.S., 1984, Université de Nancy I, France

Lecturers

Abou-Jaoude, Joseph, M.S., 1985, Kent State University, USA

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

Instructor

Soueid, Amine, MS 2001, Notre Dame University

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 Computer Science – (CGA) (108 Credits).

BS in Geographic Information Science (90 Credits).

MS in Computer Science (30 Credits).

MS in Computer Science – (CIS) (30 Credits).

Undergraduate Programs

The undergraduate programs are designed to prepare students for graduate studies in computer science, computer information systems (CIS), computer graphics & animation (CGA), business computing, geographic information science, 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
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213• One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁴⁵ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
Core Requirements	28 cr.
CSC 200, CSC 212, CSC 213, CSC 222, CSC 313, MAT 211, MAT 213, MAT 215, MAT 224, MAT 315	
Major Requirements	46 cr.
CSC 311, CSC 312, CSC 316, CSC 323, CSC 325, CSC 387, CSC 415, CSC 423, CSC 425, CSC 426, CSC 431, CSC 475, CSC 490. MAT 235, MAT 325, .	
Choose one of the following Sequences of courses:	6 cr.

⁴⁵ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Sequence a: CSC 422, CSC 432
Sequence b: CSC 423, CSC 463
Sequence c: OPR 318, MAT 339

Free Electives

3 cr.

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 I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

CSC	213	Program Design & Data Abstraction II	3 cr.
MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
REG	212 or 213	GER	3 cr.

Summer Session I (9 Credits)

MAT	211	Discrete Mathematics	3 cr.
CSC	222	Computer Organization and Assembly Language	3 cr.
—	—	GER	3cr.

Fall Semester II (15 Credits)

CSC	313	Data Structures Using C++	3 cr.
CSC	312	Computer Architecture	3 cr.
MAT	315	Linear Algebra II	3 cr.
MAT	235	Ordinary Differential Equations	3 cr.
ARB	211 or 231	GER	3 cr.

Spring Semester II (15 Credits)

CSC	323	Objected Oriented Programming	3 cr.
CSC	325	Analysis of Algorithms	3 cr.
CSC	316	Computers Security and their data	3 cr.
MAT	325	Elements of Probability	3 cr.
CSC	311	Theory of Computation	3 cr.

Summer Session II (6 Credits)

CSC	387	Advanced Programming in Java	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 Credits)

CSC	415	Imtroduction to Operating Systems	3 cr.
CSC	425	Data Communications & Computer Networks	3 cr.
CSC*	—		3 cr.
CSC	426	Principles of Database Systems	3 cr.
—	—	GER	3 cr.

Spring Semester III (16 Credits)

CSC*	—		3 cr.
CSC	431	Compiler Design	3 cr.
CSC	490	Senior Study	3 cr.
CSC	475	Network programming Lab	1 cr.
—	—	Free Elective ¹	3 cr.
—	—	GER	3 cr.

⁴⁶ CSC 220, CSC 320 cannot be taken as free elective. One has to fulfill the star by completing one of the following sequence of courses: Sequence A: CSC 422, CSC 432, Sequence B: CSC 423, CSC 463 or Sequence C: OPR 318, MAT 339

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.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213• One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁴⁷ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
Core Requirements	31 cr.
CSC 200, CSC 212, CSC 213, CSC 222, CSC 313, MAT 211, MAT 213, MAT 215, MAT 224, MAT 315, STA 210.	

⁴⁷ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Major Requirements

CSC 218, CSC 226, CSC 312, CSC 315, CSC 316, CSC 321, CSC 323,
CSC 376, CSC 414, CSC 423, CSC 425, CSC 446, CSC 475, CSC 490,

39 cr.

Technical Elective

6 cr.

Choose one of the following courses: CSC 231, CSC 318, CSC 385, CSC
387.

3 cr.

Free Electives

3 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 I	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.

Spring Semester I (15 Credits)

CSC	213	Program Design & Data Abstraction II	3 cr.
MAT	215	Linear Algebra I	3 cr.
MAT	224	Calculus IV	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
—	—	GER	3 cr.

Summer Session I (9 Credits)

CSC	222	Computer Organization & Assembly Language	3 cr.
MAT	211	Discrete Mathematics	3 cr.
REG	212 or 213	(GER)	3 cr.

Fall Semester II (16 Credits)

CSC	313	Data Structures Using C++	3 cr.
CSC	218	Principles of Communications Systems	3 cr.
CSC	226	Database Programming for Business	3 cr.
CSC	312	Computer Architecture	3 cr.
STA	210	Statistics for Business and Economics	4 cr.

Spring Semester II (15 Credits)

CSC	315	Computer Information Systems	3 cr.
CSC	321	Advanced Software Packages	3 cr.
MAT	315	Linear Algebra II	3 cr.
CSC	323	Object Oriented Programming	3 cr.
—	—	GER	3 cr.

Summer Session II (6 Credits)

—	—	GER	3 cr.
ARB	211 or 231	GER	3 cr.

Fall Semester III (15 Credits)

CSC	316	Computer Security & their data	3 cr.
CSC ⁴⁸	—	Technical Elective	3 cr.
CSC	425	Data Communications & Computer Networks	3 cr.
CSC	423	Software Engineering	3 cr.
CSC	446	Applied Database Systems	3 cr.

Spring Semester III (14 Credits)

CSC	414	Applied Operating Systems	3 cr.
CSC	490	Senior Study	3 cr.
CSC	475	Network Programming Lab	1 cr.
CSC	376	Applied Security Lab	1 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

⁴⁸ Choose one of the following courses CSC 231, CSC 318, CSC 385, CSC 387

The Degree of Bachelor of Science in Computer Science Concentration: Computer Graphics and Animation (CGA)

The B.S. in Computer Science concentration Computer Graphics and Animation is the study of the technical foundations, design and development of Computer Graphics and Animation. This program prepares students for careers as graphics software developers and for graduate study in computer graphics.

Admission Requirements

For admission requirements to the degree of BS in Computer Graphics and Animation refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Computer Graphics and Animation, 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 “T” assigned during the last semester to courses required for graduation will result in delaying their graduation.

Degree Requirements (108 Credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
• ARB 211 or ARB 231	
• REG 212 or REG 213	
• One course of the following:	
PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following:	
HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, AST 201.	
Core Requirements	33 cr.
CSC 212, CSC 220, CSC 321,	9 cr.
MAT 211, MAT 213, MAT 215, MAT 315, MAT 225	15 cr.
FAP 211, ARP 213, ARP 223.	9 cr..

Major Requirements

CSC 231, CSC 277, CSC 320, CSC 375, CSC 412, CSC 414, CSC 422, 39 cr.
CSC 423, CSC 425, CSC 430, CSC 433, CSC 443, CSC 490,
MAT 312, MAT 340. 6 cr.

Free Electives

3 cr.

Bachelor of Science in Computer Graphics and Animation Suggested Program (108 Credits)

Fall Semester I (15 Credits)

FAP	211	Drawing I	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
CSC	212	Program Design & Data Abstraction I	3 cr.
APR	213	Basic Technical Skills	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.

Spring Semester I (15 Credits)

ARP	223	Descriptive Geometry	3 cr.
CSC	220	Programming in Java I	3 cr.
MAT	211	Discrete Mathematics	3 cr.
MAT	213	Calculus III	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.

Summer Semester I (9 Credits)

MAT	315	Linear Algebra I	3 cr.
		GER	3 cr.
ARB 211 or 231		GER	3 cr.

Fall Semester II (15 Credits)

MAT	225	Vector Calculus	3 cr.
CSC	321	Advanced Software Packages	3 cr.
CSC	320	Programming in Java II	3 cr.
MAT	312	Graph Theory	3 cr.
MAT	315	Linear Algebra II	3 cr.

Spring Semester II (15 Credits)

MAT	340	Game Theory	3 cr.
CSC	277	Software Packages for Computer Graphics	3 cr.
CSC	422	Introduction to Image Processing	3 cr.
CSC	375	Computer Modeling and Simulation	3 cr.
CSC	412	Introduction to Computer Graphics	3 cr.

Summer Semester II (9 Credits)

CSC	231	Multimedia Applications	3 cr.
CSC	414	Applied Operating Systems	3 cr.
REG 212 or 213		GER	3 cr.

Fall Semester III (15 Credits)

CSC	423	Software Engineering	3 cr.
CSC	433	Applied Artificial Intelligence	3 cr.
CSC	430	Computer Graphics and Animation	3 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

Spring Semester III (15 Credits)

CSC	425	Data Communication & Computer Networks	3 cr.
CSC	443	Computer Games Design	3 cr.
CSC	490	Senior Study	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

The Degree of Bachelor of Science in Business Computing

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.

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:	
PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
Social Science Studies	3 cr.
Choose one of the following set of courses:	
HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201	
ECN 200 ⁴⁹ , ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
Basic Science Studies	6 cr.
Two distinct courses of the following:	
ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
Core Requirements	24 cr.
CSC 200, CSC 216, CSC 217, CSC 226, ACO 201, ECN 211, MAT 205, MAT 215, STA 210.	
Major Requirements	33 cr.
CSC 215, CSC 231, CSC 315, CSC 316, CSC 321, CSC 330, CSC 376, CSC 490, ACO 202, ECN 212, MAT 315.	
Free Electives	6 cr.

⁴⁹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Business Computing Suggested Program (90 Credits)

Fall Semester I (13 Credits)

CSC	201	Computers and Their Use (GER)	3 cr.
CSC	216	Computer Programming I	3 cr.
ACO	201	Principles of Accounting I	3 cr.
CSC	200	Keyboarding	1 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.

Spring Semester I (16 Credits)

ACO	202	Principle of Accounting II	3 cr.
CSC	217	Computer Programming II	3 cr.
CSC	226	Database Programming for Business	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
STA	210	Statistics for Business & Economics	4 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.
MAT	205	Math of Finance	3 cr.
ARB	211 or 231	GER	3 cr.

Spring Semester II (15 Credits)

CSC	231	Multimedia Applications	3 cr.
CSC	321	Advanced Software Packages	3 cr.
MAT	315	Linear Algebra II	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	316	Computer Security	3 cr.
CSC	330	Commercial Software Development	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester III (16 Credits)

CSC	490	Senior Project	3 cr.
CSC	376	Applied Security Lab	1 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 209 Introduction to Computers (3.0); 3 cr. An introduction to the history of computers and their use. Topics include hardware components, system software, interacting with the computer, data storage and retrieval, introduction to data communications and computer networks, the Internet, the use of computers in a variety of personal and professional context including word processing, spreadsheet analysis, database management, electronic presentation, and an introduction to computer programming using Pascal.

CSC 211 Fundamentals of Computing Using Pascal (4.0); 4 cr. The programming language PASCAL is used to provide the concepts of problem analysis and program design. Programming topics include control structures, I/O, arrays, functions and procedures.

CSC 212 Program Design and Data Abstraction I (3.0); 3 cr. This course is an introduction to computer programming using C++. Topics include problem solving using computers; structural programming; control structures; arrays; functions; pointers; recursion; data abstraction; classes; introduction to object-oriented programming paradigm.

CSC 213 Program Design and Data Abstraction II (3.0); 3 cr. This course is a continuation of CSC 212. Emphasis is placed on the object-oriented features of C++. Topics include classes; operator overloading;

inheritance; virtual functions; polymorphism; stream I/O; templates; file processing. *Prerequisite:* CSC 212.

CSC 214 Fundamentals of Computing For Engineers (3.0); 3 cr. The programming language FORTRAN is used to provide the concepts of problem analysis and program design. Programming topics include control structures, I/O, arrays, functions and procedures.

CSC 215 File Processing and Business Programming Using COBOL (3.0); 3 cr. Introduces concepts and techniques for the organization and manipulation of files through the study of the business oriented programming language COBOL. *Prerequisite:* CSC 201.

CSC 216 Computer Programming I (3.0); 3 cr. This course is an introduction to computer programming using Visual Basic. Topics include problem solving using computers, object-oriented, event-driven programming (OOED), form and control properties, variables, assignments statements, arithmetic, control structures, arrays, functions, subs, and modules.

CSC 217 Computer Programming II (3.0); 3 cr. This course is a continuation of CSC 216. Topics include security and files in Visual Basic (VB), using VB to work with databases, using VB to create graphics, and creating objects in VB. *Prerequisite:* CSC 216 or CSC 313.

CSC 218 Principles of Communication Systems (3.0); 3 cr. Spectral analysis, random variables and processes, introduction to queuing theory, analogue communication, digital communication, analogue to digital conversion, digital-modulation techniques, representation of noise, demodulation techniques, introduction to information theory. *Prerequisite:* CSC 212.

CSC 219 Digital Computer Fundamentals (3.0); 3 cr. Fundamentals of logic design, the design of switching circuits using small and medium scale integrated devices. Flip flops, counters, decoders, multiplexes, and registers.

CSC 220 Programming in Java I (3.0); 3 cr. Object-Oriented programming using Java. Topics include: Objects, classes, Methods, Interface Access, Composition, Inheritance, Polymorphism, Interfaces & Inner Classes. Introduction to predefined Classes: ArrayList, Vector, String & StringBuffer. Handling Errors with Exception, I/O system, Templates/Generics. *Prerequisite:* CSC 212

CSC 221 Introduction to Database Programming for Business (2.0); 2 cr. Analysis, design and implementation of computerized business projects using the FoxPro language. *Prerequisite:* CSC 201.

CSC 222 Computer Organization and Assembly Language (3.0); 3 cr. Machine level architecture, functional units, memory, debugging, input/output structures, storage systems, instruction sets, machine cycle, assemblers, macroassemblers and microprocessors.

CSC 226 Introduction to Database Programming for Business (3.0); 3cr. This course covers the concept of database and database modeling using ER and EER. The procedure of transforming the conceptual model to logical model (relational) is introduced, the SQL language, the relational algebra and the database design. *Prerequisite:* CSC 201.

CSC 231 Multimedia Applications (3.0); 3 cr. An Introduction to the multimedia world and a preparation to some of the well known software packages. *Prerequisite:* CSC 313 or CSC 217.

CSC 270 Computer Aided Engineering Design (0.3); 1 cr. Introduction to computer aided drawing. Applications of existing CAD software to engineering problems.

CSC 271 Workshop in Desktop Publishing (0.3); 1 cr. Laboratory sessions to gain practical experience with typesetting, procedures in a multilingual environment which includes Arabic. *Prerequisite:* CSC 201.

CSC 272 Workshop in Computer Aided Engineering Design (1.4); 3cr. Aims at applying CAD concepts in developing engineering projects. *Prerequisites:* CSC 201 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 277 Software Packages for Computer Graphics (0.3); 3 cr. Introduction to 3-D studio program to students in computer graphics.

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 313 and MAT 211.

CSC 312 Computer Architecture (3.0); 3 cr. Von Neumann architecture, machine instructions and formats, addressing techniques, microprogramming, fast arithmetic, advanced memory and I/O practices. *Prerequisite:* CSC 222 .

CSC 313 Data structures using C++ (3.0); 3cr. The course will introduce students to the use of Abstract Data type and Data Structures. Topics include: Linked Lists and Recursion, Stacks, queues and their applications, Trees, Balanced trees (AVL, Red-Black) and their implementations, Maps and Hashing, Priority Queues, Heaps, Huffman coding, Graphs vocabulary and implementation, Backtracking. *Prerequisite:* CSC 213.

CSC 314 Programming Languages (3.0); 3 cr. A comparative study of programming languages: syntax, semanticist and implementation. Students will also have to learn and gain working familiarity with the ANSI Standard C programming language. *Prerequisite:* CSC 212.

CSC 315 Computer Information Systems (3.0); 3 cr. Business systems as tools for solving information flow problems within the framework of a structured methodology. Case studies provide the students with practical applications. *Prerequisite:* CSC 221 or CSC 226.

CSC 316 Computers Security and Their Data (3.0); 3 cr. This course covers the main concepts of computer security specialty, the ones concerned with the latest technology. Encryption (symmetric & asymmetric), and the most important protocols using encryption are introduced. Also, program security, viruses, operating system security, network security and firewalls are explained. *Prerequisite:* CSC 217 or CSC 313.

CSC 318 Geographic Information Systems (3.0); 3 cr. Principles techniques and applications of geographic information systems. *Prerequisite:* CSC 201.

CSC 320 Programming in Java II (3.0); 3 cr. This course is the continuity of Java I. Topics include: Creating Windows & Applets, 2D and 3D painting, Run-Time Type Identification, Multiple Threads, Introduction to Distributed Computing: JSP, JDBC, RMI. *Prerequisite:* CSC 220.

CSC 321 Advanced Software Packages (3.0); 3 cr. An in-depth practical experience with new generation software packages in the areas of office automation and management. *Prerequisite:* CSC 221 or CSC 226.

CSC 323 Object-Oriented Programming Using C++ (3.0); 3 cr. Abstract data types, classes, objects basic properties, inheritance, polymorphism and dynamic binding, multiple inheritance, object-oriented software engineering, modeling and prototyping. *Prerequisite:* CSC 313 or CSC 217.

CSC 325 Analysis of Algorithms (3.0); 3cr. An introduction to the analysis of the efficiency and accuracy of algorithms. Dynamic Programming. Greedy Algorithms. Graph Algorithms. Selected topics. *Prerequisite:* CSC 313.

CSC 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 372 Mathematical Software Packages (1.0); 1 cr. Introduction to computer programming and simulation using mathematical software packages such as Matlab, Maple, Mathematica.

CSC 375 Computer Modeling and Simulation (3.0); 3 cr. Introduction to basic concepts of simulation modeling: data acquisition, model construction and validation, experimentation, implementing the results. Discrete systems simulation using Matlab software. *Prerequisite:* CSC 313 or CSC 320.

CSC 376 Applied Security lab (1.2); 1 cr. This course applies the theoretical concepts of encryption by building or using some security packages. It studies and compares different security features of the current commercial anti-virus and anti-intrusion software, operating systems, database management systems, firewalls and risk analysis packages. *Prerequisite:* CSC 316.

CSC 385 Internet Computing (3.0); 3 cr. The topics covered in the course include Introduction to Internet, WWW, HTML, CGI (Common Gateway Interface), Perl Language, XML, JavaScript, Java Servlet, ASP and other server-side technologies. *Prerequisite:* CSC 313 or CSC 217.

CSC 387 Advanced programming using Java (3.0); 3cr. From C++ to Java, interfaces, inner classes, I/O system, Templates/Generics. Creating Windows & Applets, 2D and 3D painting, Multiple Threads, Java Database Connectivity (JDBC), Java Networking: Client/Server Architecture, Servlet, Java Server Page (JSP). *Prerequisite:* CSC 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 313 or CSC 320.

CSC 414 Applied Operating Systems (3.0); 3 cr. Fundamental concepts that are applicable to a variety of operating systems. Detailed case studies of Unix, Linux and Windows NT systems.

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 218 or CSC 312 or CSC 414.

CSC 426 Principles of Database Systems (3.0); 3 cr. The objective of this course is to

introduce the fundamental concepts necessary for designing, using and implementing database systems. The course will study data modeling by understanding the concepts data schema, data representation, relations and attributes, normalization, data description language, data definition language and data manipulation languages. The course will also provide an introduction to the next generations systems and basically OODBS. Also the course will cover a number of issues that are important in the design of DBMS including recovery, consistency, security, integrity and query optimization. *Prerequisite:* CSC 313 or CSC 217.

CSC 430 Computer Graphics and Animation (3.0); 3 cr. Topics include: mathematical techniques for curve and surfaces; color systems; fractals hidden lines and hidden shad up; surface mapping and ray tracing; techniques of animation. *Prerequisite:* CSC 412 or its equivalence.

CSC 431 Compiler Design (3.0); 3 cr. Principles and practices in the design of programming language compilers. Topics: lexical analysis, parsing theory (LL, LR, and LALR parsing), symbol tables, type checking, common representations for arrays, runtime conventions for procedure calls, storage allocation for variables, and generation of code. Students construct two compilers as the programming projects: the first is a simple predictive parser and the second is a rather large project using Lex and Yacc. *Prerequisites:* CSC 311.

CSC 432 Introduction to Artificial Intelligence (3.0); 3 cr. Basic concepts of artificial intelligence, predicate calculus, proof by refutation (Oring algorithm), natural language processing, game trees, heuristic, introduces two programming languages LISP and PROLOG. *Prerequisite:* CSC 313.

CSC 433 Applied Artificial Intelligence (3.0); 3 cr. The aim of this course is to introduce Game-related Artificial Intelligence fundamental concepts: Intelligent agents, Heuristic Search, Planning, Uncertainty and Decisions Making (Fuzzy Logic), Learning (Genetic Algorithms). *Prerequisites:* CSC 320 and MAT 340.

CSC 443 Computer Games Design (3.0); 3 cr. In this course, the student learns about the main components that are required to design a computer game. The work includes project design activities where the students will be expected to make use of existing programming tools. *Prerequisites:* CSC 433.

CSC 446 Applied Database Systems (3.0); 3 cr. This course is intended to be a practical study of the fundamentals of current database technologies and database management systems. Wide range of topics will be covered including uses of databases, database architecture, design, real world implementations, security and integrity issues, performance and concurrency. *Prerequisite:* CSC 221 or CSC 226.

CSC 463 Advanced Software Development (3.0); 3 cr This course teaches the design and implementation of interactive C++ applications. In this course, the student will gain experience with (a) programming interactive windows, icons, mouse I/O and pull-down menus; (b) using large libraries of precompiled system functions; (c) using large system object libraries. *Prerequisite:* CSC 323.

CSC 475 Network Programming Lab (1.2); 1 cr. Applied networking and distributed

computing in Java. Networking with sockets. TCP/IP, Multicast, HTTP, RMI, Finger, and ping clients and servers. Multiprotocol chat systems & whiteboards. *Prerequisite:* CSC 425.

CSC 476 Database Programming lab (1.2); 1 cr. This course applies the theoretical concepts of database design using a specific application on a commercial database management system. The general concepts of this DBMS including transaction handling, optimization, recovery, and security are checked and compared with other commercial DBMS. *Prerequisites:* CSC 426 or CSC 446.

CSC 480 Internship 1 cr. Assigned work at an industrial establishment. The grade will be based on employer's evaluation, written report and oral discussions. *Prerequisite:* Senior Standing.

CSC 485 Seminar (3.0); 3 cr. This course is designed to provide students an opportunity to study some topics in computer science that have not been included in the curriculum. *Prerequisite:* Senior Standing.

CSC 490 Senior Study 3 cr. Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

The Degree of Bachelor of Science in Geographic Information 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.

**Degree Requirements
(92 credits)**

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills ENL 221, ENL 239	6 cr.
b) Computer Skills CSC 201	3 cr.
c) Cultural Studies <ul style="list-style-type: none"> • ARB 211 or ARB 231 • REG 212 or REG 213 • One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201. 	9 cr.
d) Social Science Studies One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201 ⁵⁰ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	3 cr.
e) Basic Science Studies Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	6 cr.
 Core Requirements CSC 212, CSC 213, CSC 273, CSC 313, CSC 323, MAT 213, MAT 224, PHS 203, GEO 201	 28 cr.
 Major Requirements CEN 150, CEN 151, CSC 426, GIS 211, GIS 311, GIS 321, GIS 331, GIS 341, GIS 351, GIS 411, GIS 490	 31 cr.
 Free Electives	 6 cr.

⁵⁰ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Geographic Information Science Suggested Program (90 Credits)

Fall Semester I (15 Credits)

CSC	201	Computers and Their Use (GER)	3 cr.
CSC	212	Program Design & Data Abstraction I	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	213	Program Design & Data Abstraction II	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	313	Data Structure Using C++	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	3 cr.

Spring Semester II (12 Credits)

CSC	323	Object-Oriented Programming	3 cr.
GIS	341	Cartography & Automated Mapping	3 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Fall Semester III (15 Credits)

CSC	426	Principle of Database Systems	
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 (12 Credits)

—	—	GER	3 cr.
GIS	411	Geodetic Science & Satellite Positioning	3 cr.
GIS	490	GIS Senior Project	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 318.

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. Aerial 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.

GIS 351 Photogrammetry and Remote Sensing (3.0); 3 cr. the nature of remote sensing. Optical radiation models. Sensor models. Data models. Spectral and spatial transforms. Correction and calibration. Image registration and fusion. Introduction to photogrammetry. Basic elements and techniques of image interpretation. Various aerial camera systems and platforms. Films and filter combination. Geometry and Aerial photography. Scale and area and height measurement. Stereoscopy. Flight planing and ground control of aerial photography. Orthophotography.
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.

GIS 490 Senior Project (3.0); 3 cr. Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

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.)
30 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.

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, MAT 661, and MAT 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.

MS 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	6 cr.
CSC 691 Master Thesis in Computer Science Part I	3 cr.
CSC 692 Master Thesis in Computer Science Part II	3 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.

Graduate Program: Computer Science – Concentration Computer Information System

The purpose of the graduate in CS-CIS is to teach students how to combine general management knowledge with the latest software tools and techniques to create information systems which allow organizations to compete in the global market place. Graduates will be prepared for careers in a variety of areas such as programming, system development, database administration, network development and support, and consulting.

The Degree of Master of Science in Computer Science – Concentration Computer Information System

Admission Requirements

In addition to the university graduate admission requirements, candidates are expected to have a sufficient background in computer science and mathematics. Those who do not meet these requirements may be given provisional admission pending satisfactory completion of a set of undergraduate courses. The credits earned for these courses will not be counted

towards the 30 credits required for the degree of master of science (MS) in computer science – concentration computer information systems.

Graduation Requirements

To satisfy the requirements for the degree of MS in Computer Science – Concentration Computer Information System, 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.)
30 cr.**

1- Complete the following courses

CSC 603, CSC 605, CS 606, CSC 616, CSC 626 or CSC 623, CSC 631,
STA 614, BAD 636, ⁵¹CSC 6xx or ⁵²BAD 6xx

MS in Computer Science (Course-Work Option) Suggested Program (30 Credits)

Fall Semester I (9 Credits)

CSC	603	Object-Oriented Applications	3 cr.
STA	614	Advanced Statistical Methods for Business Decision Systems	3 cr.
CSC	631	Multimedia Systems	3 cr.

Spring Semester I (9 Credits)

BAD	636	Project Planning and Management	3 cr.
CSC	616	Advanced Database Systems	3 cr.
CSC	626	Computer Communication and Networks	3 cr.
or			
CSC	623	Advanced Software Engineering	3 cr.

Fall Semester II (9 Credits)

CSC	605	System Analysis and Design	3 cr.
¹ CSC	6xx	Elective	3 cr.
or			
² BAD	6xx		3 cr.

Spring Semester II (9 Credits)

CSC	606	Operating Systems and Security	3 cr.
¹ CSC	6xx	Elective	3 cr.
or			
² BAD	6xx		

⁵¹ Choose one of the following courses: CSC 612, CSC 622, CSC 623, CSC 632, CSC 633, CSC 670

⁵² Choose one of the following courses: BAD 630, BAD 634, BAD 638

**Degree Requirements Thesis Option
(30 Credits)**

	Number of Credits (cr.)
1- Complete the following courses	24 cr.
CSC 603, CSC 605, CSC 616, CSC 626 or CSC 623, CSC 631, STA 614, BAD 636, ⁵³ CSC 6xx, or ⁵⁴ BAD 6xx	
2- Complete the following thesis courses	6 cr.
CSC 691 Master Thesis in Computer Science Part I	3 cr.
CSC 692 Master Thesis in Computer Science Part II	3 cr.

**Master of Science in Computer Science (Thesis Option)
Suggested Program (30 Credits)**

Fall Semester I (9 Credits)

CSC	603	Object-Oriented Applications	3 cr.
STA	614	Advanced Statistical Methods for Business Decision Systems	3 cr.
CSC	631	Multimedia Systems	3 cr.

Spring Semester I (9 Credits)

BAD	636	Project Planning and Management	3 cr.
CSC	616	Advanced Database Systems	3 cr.
CSC	626	Computer Communication and Networks	3 cr.
or			
CSC	623	Advanced Software Engineering	3 cr.

Fall Semester II (9 Credits)

CSC	605	System Analysis and Design	3 cr.
CSC	691	Master Thesis I	3 cr.

Spring Semester II (9 Credits)

CSC	692	Master Thesis II	3 cr.
¹ CSC	6xx	Elective	3 cr.
or			
² BAD	6xx		

⁵³ Choose one of the following courses: CSC 612, CSC 622, CSC 623, CSC 632, CSC 633, CSC 670

⁵⁴ Choose one of the following courses: BAD 630, BAD 634, BAD 638

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 603 Objected-Oriented Applications (3.0); 3 cr. Emphasizes the use of Object-Oriented Architectures and Components in order to build business to business and business to client applications. The multi-tier architecture will be studied in depth through Enterprise Java Beans (EJB) specifications. The development environment is Jbuilder 4 of Borland.

CSC 605 System Analysis and Design (3.0); 3 cr. Emphasizes the design aspects of systems development, including logical and physical design, implementation, resting and operation. State-of the art system development process, methods and tools are presented.

CSC 606 Operating Systems and Security (3.0); 3 cr. Special emphasis on distributed computing, and the services provided by distributed operating systems. Important topics include naming, security, remote procedure call, networks, concurrency, transactions, parallel computing, shared memory, message passing, and scale.

CSC 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; fractals hidden lines and hidden shading; 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. Advanced Topics in software engineering are covered including: formal methods, cleanroom software engineering, component-based development, client/server software engineering, web engineering, reengineering, computer-aided software engineering.

CSC 625 Advanced Operating Systems (3.0); 3 cr. 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), TCP/IP, Internetworking and network management. *Prerequisite:* CSC 218 or CSC 425 or their equivalence.

CSC 631 Multimedia Systems (3.0); 3 cr. This course provides the background needed for the design and development of computer-based systems that combine text, still images, sound, animation, and full motion video. The course will examine design methodologies used in planning these systems, and authoring languages used to create such systems.

CSC 632 Artificial Intelligence (3.0); 3 cr. Principles of problem solving and planning and machine learning systems. Introduction to current State-of-the art expert systems and

expert systems tools. *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. Amer Jajou*

Secretary: *Miss Nelly Geara*

Professor

⁵⁵**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

Assistant Professors

Ghalayini, Bassem, Ph.D., 1995, University of California, Los Angeles, USA
Differential Equations

Jajou, Amer F., Ph.D., 1987, Univerzita Karluva, Czechoslovakia
Operations Research, Numerical Analysis

Maalouf, Ramez, Ph.D., 1994, University of London, England
Complex Analysis, Fractal Geometry

Naboulsi Rami, Doctorate, 2001, Provence University, France,
Particle Physics, Mathematical Physics and Modeling

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

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 (91 Credits).
- BS in Mathematics (103 Credits).
- MS in Mathematics (33 Credits)

⁵⁵ On tenure appointment

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.

Degree Requirements (112 credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none"> • ARB 211 or ARB 231 • REG 212 or REG 213 • One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201. 	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁵⁶ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
 Core Requirements	 37 cr.
ACO 201, BAD 201, ECN 211, ECN 212, MAT 205, MAT 213, MAT 215, MAT 224, MAT 235, CSC 212, STA 210, STA 312	
 Major Requirements	 42 cr.
ACS 310, ACS 314, ACS 320, ACS 324, ACS 327, ACS 330, ACS 421, ACS 424, ACS 430, ACS 450, ACS 460, MAT 325, MAT 339, STA 315	
 Free Electives	 6 cr.
Choose two courses from the already non-chosen courses in sets (c), (d), and (e). However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.	

⁵⁶ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212

Bachelor of Science in Actuarial Science and Insurance Suggested Program (112 Credits)

Fall Semester I (16 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	210	Statistics for Business & Economics	4 cr.
ARB	211 or 231	GER	3 cr.

Spring Semester I (15 Credits)

ACO	201	Principles of Accounting I	3 cr.
ECN	212	Principles of Macroeconomics	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	213	Calculus III	3 cr.
CSC	212	Program Design and Data Abstraction I	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.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Fall Semester III (15 Credits)

ACS	324	Life Insurance	3 cr.
ACS	327	Risk Theory	3 cr.
ACS	330	Insurance Law and Regulations	3 cr.
ACS	430	Actuarial Science Practicum	3 cr.
—	—	GER	3 cr.

Spring Semester III (18 Credits)

ACS	421	Credibility Theory and Loss Distributions	3 cr.
ACS	424	Pension Fund Mathematics	3 cr.
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:* MAT 325.

ACS 330 Insurance Law and Regulations (3.0); 3 cr. Elements of business law as it applies to insurance; government and social policy as it relates to general insurance; automobile insurance and assigned risk plans.

ACS 421 Credibility Theory and Loss Distributions (3.0); 3 cr. Estimation 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 324, 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 of Science in Applied Statistics

The degree of BS in Applied Statistics prepares students for careers as statistical analysts and consultants, biostatisticians, pollsters, general statisticians, or teachers, in:

- Engineering, and operations management companies.
- Hospitals, health centers, medical and applied science laboratories.
- Academic, and educational institutions.
- Testing and measurement offices.
- 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 91 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the major and core requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (91 credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none"> • ARB 211 or ARB 231 • REG 212 or REG 213 • One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201. 	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁵⁷ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
 Core Requirements	 19 cr.
MAT 213, MAT 215, MAT 224, STA 210, ECN 211, ECN 212.	
 Major Requirements	 39 cr.
MAT 315, MAT 325, MAT 330, STA 305, STA 312, STA 315, STA 325, STA 354, STA 360, STA 415, STA 450, STA 490, ACS 320.	
 Free Electives	 6 cr.
Choose two courses from the already non-chosen courses in sets (c), (d), and (e). However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.	

⁵⁷ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Bachelor of Science in Applied Statistics Suggested Program (91Credits)

Fall Semester I (16 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.
MAT	213	Calculus III	3 cr.
STA	210	Statistics for Business and Economics	4 cr.

Spring Semester I (15 Credits)

ECN	212	Principles of Macroeconomics	3 cr.
MAT	215	Linear Algebra I	3 cr.
ENL	239	Technical English for Science (GER)	3 cr.
MAT	224	Calculus IV	3 cr.
—	—	Free Elective	3 cr.

Fall Semester II (15 Credits)

MAT	315	Linear Algebra II	3 cr.
MAT	325	Elements of Probability	3 cr.
STA	305	Sampling Theory	3 cr.
REG	212 or 213	GER	3 cr.
ARB	211 or 231	GER	3 cr.

Spring Semester II (15 Credits)

STA	312	Introduction to Time Series Analysis	3 cr.
STA	315	Mathematical Statistics	3 cr.
ACS	320	Mathematics of Demography	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 Credits)

STA	325	Design of Experiments	3 cr.
STA	330	Probability Models	3 cr.
STA	354	Applied Regression Analysis	3 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

Spring Semester III (15 Credits)

STA	360	Applied Multivariate Statistical Analysis	3 cr.
STA	415	Statistical Quality Control	3 cr.
STA	450	Topics in Applied Statistics	3 cr.
STA	490	Senior Project	3 cr.
—	—	GER	3 cr.

Undergraduate Courses: Statistics

STA 201 Statistics for Social Sciences (3.0); 3 cr. Topics include: Frequency distribution; measures of central tendency; measures of dispersion; quartiles and percentiles, laws of probability, sampling distributions, estimation, testing hypothesis and chi-square distribution. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 203 Biostatistics (3.0); 3 cr. Fundamentals principles of statistics as they apply to biological problems, including statistical inference analysis of variance. Correlation regression. A software package will be used. *Prerequisite:* Sophomore Standing.

STA 206 Applied Statistics for Business and Economics I (3.0); 3 cr. Descriptive statistics; measures of central tendency and dispersion; introduction to probability; conditional probability; independence; random variables; discrete probability distributions. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 207 Applied Statistics for Business and Economics II (3.0); 3 cr. Sampling distributions; inferences about a population mean, proportion and variances; experimental design; analysis of variance and covariance; linear regression and correlation. A statistical software package will be used. *Prerequisite:* STA 206.

STA 209 Applied Statistics (3.0); 3 cr. Frequency distribution; measures of central tendency and dispersion; probability laws; random variables; sampling and estimations. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 210 Statistics for Business and Economics (4.0); 4 cr. Descriptive statistics; measures of central tendency and dispersion, probability laws; random variables, sampling distributions; estimation; hypothesis testing simple linear regression; analysis of variance and chi-square. A statistical software package will be used. *Prerequisite:* Sophomore Standing.

STA 303 Statistical Inference (3.0); 3 cr. Logic of statistical inference; sampling distributions; point and interval estimations hypothesis testing; correlation; regression. *Prerequisite:* STA 210

STA 305 Sampling Theory (3.0); 3 cr. Topics include: selection of sampling unit; determination of sample size; random and stratified sampling; purposive selection; sub-sampling and sampling chesters; sampling from finite universe. *Prerequisite:* STA 210.

STA 312 Introductory Time Series Analysis (3.0); 3 cr. Statistical models for time series decomposition; linear and nonlinear analysis; spectral methods; data smoothing methods; forecasting models. *Prerequisite:* STA 210.

STA 315 Mathematical Statistics (3.0); 3 cr. Sampling; estimation; hypothesis testing; t-distribution; chi-square distribution; F-distribution; linear regression and correlation. 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 210.

STA 354 Applied Regression Analysis (3.0); 3 cr. An applied introduction to Linear and Multiple Regression Models; Testing of Hypothesis in Multiple Regression; Multiple, Partial and Multiple Partial Correlation; Confounding and Interaction in Regression; Regression Diagnostics; Dummy Variables in Regression and selection of the Best Regression Equation. The course stresses the knowledge of how to develop a regression model and how to interpret the output by statistical packages without resorting to rigorous mathematical development. *Prerequisite:* STA 315.

STA 360 Applied Multivariate Statistical Analysis (3 cr.) Multivariate analysis, matrix algebra and random vectors, random sampling,

the multivariate normal distribution, inferences about multivariate means and linear models, comparisons of several multivariate means, and multivariate linear regression. *Prerequisite:* STA 315.

STA 415 Statistical Quality Control (3 cr.)

Methods and philosophy of statistical control; charts; for variables and for attributes, cumulative and exponentially weighted moving average control charts. Other statistical process techniques, process capability analysis. *Prerequisite:* STA 315.

STA 450 Topics in Applied Statistics (3.0); 3 cr.

Multivariate distributions; regression analysis; non-parametric statistics; sequential analysis; decision theory; *Prerequisite:* STA 303.

STA 490 Senior Project 3 cr.

Assigned project supervised by a faculty member. The grade will be based on project evaluation and individual oral presentation. *Prerequisite:* Senior Standing.

Graduate Courses: Statistics

STA 500 Applied Statistics for Business and Economics (3.0); 3 cr.

The course covers the following main topics: Introduction to Statistics and Probability, discrete and continuous random variables, sampling distribution, testing hypothesis and estimation, analysis of variance, simple and multiple regression, and time-series analysis. The course also applies these concepts and Techniques to actual real world business and economic situations.

STA 614 Advanced Statistical Methods for Business Decisions (3.0); 3 cr.

This course develops an analytical approach to risk in management decisions. Topics include decision analysis; correlation and multiple regression; discriminant; judgment; canonical; cluster and factor analysis.

STA 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 (103 credits)

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213• One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁵⁸ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
Core Requirements	28 cr.
CSC 212, CSC 213, CSC 372, MAT 211, MAT 213, MAT 215, MAT 224, MAT 235, PHY 213, CHM 211.	
Major Requirements	42 cr.
MAT 312, MAT 315, MAT 323, MAT 325, MAT 333, MAT 335, MAT 339, MAT 411, MAT 413, MAT 421, MAT 423, MAT 450, CSC 313, STA 315.	

⁵⁸ 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 (c), (d), and (e). However for choosing courses from outside these sets, you must receive the written approval of the Faculty Dean.

**Bachelor of Science in Mathematics
Suggested Program (103 Credits)**

Fall Semester I (15 Credits)

CSC	201	Computers and Their Use (GER)	3 cr.
MAT	211	Discrete Mathematics	3 cr.
MAT	213	Calculus III	3 cr.
MAT	215	Linear Algebra I	3 cr.
ENL	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 (7 Credits)

CHM	211	Principles of Chemistry	3 cr.
ARB	211 or 231	GER	3 cr.
CSC	372	Mathematical Software	1 cr.

Fall Semester II (15 Credits)

CSC	213	Program Design and Data Abstraction II	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)

MAT	312	Graph Theory	3 cr.
STA	315	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 (3.0); 3 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:* MAT 100 or 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 I (3.0); 3 cr. This course is designed to introduce topics in calculus and matrix analysis with applications to business, management, economics and social science. *Prerequisite:* Sophomore Standing.

MAT 205 Mathematics for Business and Economics II (3.0); 3 cr. Sequences; arithmetic and geometric progression. Simple interest; compound interest. Continuous compounding; annuities; amortization and sinking funds. Bonds and stocks. Capital budgeting and depreciation. *Prerequisite:* Sophomore Standing.

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 225 Vector Calculus (3.0); 3 cr. This course introduces vectors in Cartesian and curvilinear coordinate systems, the graphs and gradient of a real valued function, paths are length and vector fields, geometry of maps, double and triple integrals, line and surface integrals, and projective geometry, *Prerequisite:* Mat 213.

MAT 235 Ordinary Differential Equations (3.0); 3 cr. First-order ordinary differential equations. Higher-order linear differential equations. Power series solution: ordinary and singular points. Laplace transform, convolution. Systems of linear differential equations. *Prerequisite:* MAT 213.

MAT 303 Mathematical Logic and Set Theory (3.0); 3 cr. Axiomatic theory of sets; the axiom of choice; propositional logic; quantification theory; formal construction of the sets \mathbb{N} ; \mathbb{Z} ; \mathbb{Q} ; \mathbb{R} ; and \mathbb{C} . Cardinal numbers and their arithmetic; ordinal numbers and transfinite induction. *Prerequisite:* MAT 211.

MAT 305 Number Theory (3.0); 3 cr. Foundations of arithmetic; properties of integers and prime numbers; unique factorization; congruence; Diophantine equations; theorems of Fermat; Euler; and Wilson; quadratic reciprocity. *Prerequisite:* MAT 211.

MAT 312 Graph Theory (3 cr.) Basic concepts of graph theory, the use of paths and cycles in some applied algorithms such as the traveling salesman problem, the use of trees in computing and computer networks, planarity of graph and its use in coloring problem, the directed graph with applications on the marriage problem, the Latin squares and network flows. *Prerequisite:* MAT 211.

MAT 315 Linear Algebra II (3.0); 3 cr. 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 325 Elements of Probability (3.0); 3 cr. Probability of events; axioms of probability; conditioning and independence; random variable and expectations; discrete and continuous distributions; moment generating functions; the Central Limit Theorem. *Corequisite:* MAT 224.

MAT 326 Probability & Statistics For Engineers (4.0); 4 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 330 Probability Models (3 cr.) Conditional probability and conditional expectation, discrete and continuous Markov chains, the Exponential distribution and Poisson process, queuing theory and reliability theory. *Prerequisite:* MAT 325.

MAT 333 Complex Variables (3.0); 3 cr. Analytic functions; derivatives; Cauchy-Reimann equations; complex integration; Cauchy integral theorem; power series; Laurent series; residue theorem; conformal mapping; Cauchy-Christoffel transformation. *Prerequisite:* MAT 224.

MAT 335 Partial Differential Equations (3.0); 3 cr. Linear partial differential equations. Separation of variables; closed form solutions; transform techniques; and numerical methods. Fourier series and Fourier transform, the Dirichlet 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 224 . and a Computer Programming Language.

MAT 340 Game Theory (3.0); 3 cr. Introduces the basic concepts of game theory. Individual decision theory. Modeling games. Normal and

extensive form games. Games with many strategies and repeated games. *Prerequisite:* MAT 211.

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-Stieltjes 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.

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:* STA 206 or STA 210.

Graduate Program: Mathematics

The graduate program in mathematics leads to the degree of Master of Science in mathematics. It is designed to prepare students to teach, and assume positions in business and industry where quantitative methods are needed and to do research in advanced topics in mathematics.

The Degree of Master of Science in Mathematics

Admission Requirements

In addition to the graduate admission requirements of the University, entering students are expected to have a sufficient background in mathematics. Those who do not have it may be given provisional admission pending satisfactory completion of some undergraduate courses. The credits earned for these courses will not be counted toward the 33 credits required for the degree of MS in mathematics.

Graduation Requirements

To satisfy the requirements for the degree of MS in mathematics, the student must complete a total of 33 credits with an overall average of at least 3.0/4.0.

Degree Requirements (Course-Work Option) (33 credits)

	Number of Credits (cr.)
1- Complete the following courses MAT 621, MAT 623, MAT 625, MAT 632, MAT 634, MAT 636, MAT 641, MAT 642, MAT 661, MAT 662.	30 cr.
2- Choose one 3-credit course MAT 6xx or STA 6xx	3 cr.
3- Comprehensive Written Examinations (CWE) Pass comprehensive written examinations in MAT 621, MAT 632, and another one year sequence of graduate courses in mathematics. This sequence shall be determined solely by the student. Students may sign for the (CWE) upon the completion of at least 18 credits with an overall average of 3.0/4.0. These examinations are usually scheduled at the end of the Fall and the Spring semesters. Those who fail these examinations are allowed to retake them only twice no later than the end of the following academic year.	

**MS in Mathematics (Course-Work Option)
Suggested Program (33 Credits)**

Fall Semester I (9 Credits)

MAT	621	Advanced Algebra I	3 cr.
MAT	623	Advanced Analysis I	3 cr.
MAT	625	General Topology	3 cr.

Spring Semester I (9 Credits)

MAT	632	Advanced Algebra II	3 cr.
MAT	634	Advanced Analysis II	3 cr.
MAT/	6xx	Elective	3 cr.
STA			

Fall Semester II (9 Credits)

MAT	636	Algebraic Topology	3 cr.
MAT	641	Theory of Ordinary Differential Equations I	3 cr.
MAT	661	Computational Mathematics I	3 cr.

Spring Semester II (6 Credits)

MAT	642	Theory of Partial Differential Equations II	3 cr.
MAT	662	Computational Mathematics II	3 cr.

**Degree Requirements (Thesis Option)
(33 Credits)**

	Number of Credits (cr.)
1- Complete the following courses	24 cr.
MAT 621, MAT 623, MAT 625, MAT 632, MAT 634, MAT 636, MAT 661, MAT 662.	
2- Choose one 3-credit course	3 cr.
MAT 6xx or STA 6xx	
3- Complete MAT 691 and MAT 692 (Master Thesis)	6 cr.

Master Thesis

Students may register for the thesis (MAT 691 & MAT 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 three credits 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 bound copies of the approved final copy of the master to the jury chairperson, who in turn, shall distribute them to the Library, Faculty, department, and to each member of the jury.

Master of Science in Mathematics (Thesis Option) Suggested Program (33 Credits)

Fall Semester I (9 Credits)

MAT	621	Advanced Algebra I	3 cr.
MAT	623	Advanced Analysis I	3 cr.
MAT	625	General Topology	3 cr.

Spring Semester I (9 Credits)

MAT	632	Advanced Algebra II	3 cr.
MAT	634	Advanced Analysis II	3 cr.
MAT/	6xx	Elective	3 cr.
STA			

Fall Semester II (9 Credits)

MAT	636	Algebraic Topology	3 cr.
MAT	661	Computational Mathematics I	3 cr.
MAT	691	Master Thesis Part I	3 cr.

Spring Semester II (6 Credits)

MAT	662	Computational Mathematics II	3 cr.
MAT	692	Master Thesis Part II	3 cr.

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. *Prerequisite:* MAT 215.

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.

DEPARTMENT OF SCIENCES

Chairperson: *Dr. Doris Jaalouk*

Secretary: *Miss Danielle Abboud*

Associate Professor

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
Biology

Dib, Robert, Doctorate, 1998, Université de Nante, France
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

Haroun, Michelyne, Ph.D., 2001, Université René Descartes – Paris V, France
Chemistry

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

Khalaf, Kayrouz, Layla, 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, King's College, London, England
Nutrition

Laboratory Instructors & Research Assistants

Maalouf, Nada, M.S., 1996, American University of Beirut, Lebanon
Biology

El-Hage, El-Amm, Rita, M.S., 1988, American University of Beirut, Lebanon
Public Health

Laboratory Assistant

Saliba, Elizabeth, B.S., 1999, Lebanese University, Lebanon
Biology

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 (16 Credits)			
ENL	109	Freshman English I for Science	3 cr.
MAT	111	Calculus and Analytic Geometry I	4 cr.
—	—	¹ Natural Sciences Courses	6 cr.
—	—	² Elective	3 cr.
Spring Semester (16 Credits)			
ENL	110	Freshman English II for Science	3 cr.
MAT	112	Calculus and Analytic Geometry II	4 cr.
PHL	101	Introduction to Philosophy	3 cr.
—	—	¹ Natural Sciences Courses	3 cr.
—	—	² Elective	3 cr.

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) (3 options)
- BS in Environmental Science (104 Credits).
- BS in Medical Laboratory Technology (103 Credits)
- BS in Physics (94 Credits).
- BS in Chemistry (98 Credits) (2 options).
- BS in Nutrition (94 Credits).
- BS in Nutrition and Dietetics (114 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 &

¹ Choose from : CHM 101, CHM 102, CHM 171, CHM 172, PHS 101, PHS 102, PHS 171, PHS 172, BIO 101, BIO 171.

² Student is free to take any one hundred level course approved by his/her advisor.

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

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 “*T*” 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.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
• ARB 211 or ARB 231	
• REG 212 or REG 213	
• One course of the following:	
PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following:	
HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁵⁹ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following:	
ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
 Core Requirements	 43 cr.
BIO 211, BIO 212, BIO 220, BIO 227, CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, PHS 208, PHS 209, PHS 278, PHS 279, MAT 213, STA 203.	
 Major Requirements	 26 cr.

⁵⁹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

BIO 324, BIO 335, BIO 485

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.

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.
—	—	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	213	Calculus III	3 cr.
REG	212 or 213	GER	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 Credits)

BIO	220	Genetics	3 cr.
CHM	222	Organic Chemistry II	3 cr.
CHM	272	Organic Chemistry Laboratory	2 cr.
PHS	208	Physics for Life Sciences I	3 cr.
PHS	278	Physics for Life Sciences I Lab	1 cr.
—	—	GER	3 cr.

Spring Semester II (14 Credits)

BIO	227	Introductory Biochemistry	3 cr.
CHM	215	Quantitative Analysis	4 cr.
PHS	209	Physics for Life Sciences II	3 cr.
PHS	279	Physics for Life Sciences II Lab	1 cr.
STA	203	Biostatistics	3 cr.

Summer Session II (6 Credits)

—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Option 1: No Concentration - General Biology

Fall Semester III (14 Credits)

BIO	335	Cell Biology	4 cr.
BIO	—		3 cr.
BIO	—		4 cr.
BIO	—		3 cr.

Spring Semester III (15 Credits)

BIO	324	Plant Physiology	4 cr.
BIO	—		4 cr.
BIO	—		3 cr.
BIO	485	Seminar	1 cr.
—	—	Free Elective	3 cr.

Option 2: Concentration – Biotechnology

Fall Semester III (14 Credits)

BIO	320	Microbiology	4 cr.
BIO	334	Molecular Biology	3 cr.
BIO	335	Cell Biology	4 cr.
BIO	337	Biochemical Methods	3 cr.

Spring Semester III (15 Credits)

BIO	324	Plant Physiology	4 cr.
BIO	336	Basic Biotechnology	3 cr.
BIO	400	Bioinformatics	4 cr.
BIO	485	Seminar	1 cr.
—	—	Free Elective	3 cr.

Option 3: Concentration - Environmental Biology

Fall Semester III (14 Credits)

BIO	314	Ecology	3 cr.
BIO	320	Microbiology	4 cr.
BIO	335	Cell Biology	4 cr.
ENS	451	Environmental Biotechnology	3 cr.

Spring Semester III (15 Credits)

BIO	324	Plant Physiology	4 cr.
BIO	325	Aquatic Biology	4 cr.
BIO	424	Conservation Biology	3 cr.
BIO	485	Seminar	1 cr.
—	—	Free Elective	3 cr.

Undergraduate Courses: Biology

BIO 101 Introduction to Biology (3.0); 3 cr. An introduction to the fundamental principles of biology. Covers chemical basis of life, structure and function of cells and tissues, basic genetic concepts, as well as structure and function of human body systems. *Prerequisite:* Freshman Standing.

BIO 171 Introduction to Biology Laboratory (0.3); 1 cr. Laboratory course illustrating the concepts and theory taught in Introduction to Biology.

BIO 202 Mystery of life (3.0); 3 cr. “Big picture” of cosmic evolution: Formation of chemical elements, stars and planets, prebiotic evolution, origin and evolution of life on Earth. The way humans are affecting the course of evolution by altering the genetic makeup of organisms, as well as other aspects of applied biology.

BIO 203 Biology Past and Present, (3.0) 3 cr. A general introductory course that covers the

basic principles and concepts of Biology with current applications. Not open for Biology students.

BIO 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 211.

BIO 220 Genetics (3.0); 3 cr. Mendelian genetics & extensions of Mendelian analysis; population & quantitative genetics; molecular genetics: DNA structure and replication, organization of DNA in chromosomes, gene & chromosomal mutations, gene expression and its regulation, recombinant DNA technology. *Prerequisite:* BIO 211.

BIO 222 Immunology (3.0); 3 cr. Detailed description of the components of the immune system: their development, differentiation & functioning during an immune response; immune response to pathogens, tumors & grafts; immunopathologies; basic immunological techniques. *Prerequisite:* BIO 211.

BIO 226 Evolution (3.0); 3 cr. Study of processes that bring about evolutionary changes in organisms, evolutionary trends, patterns of adaptations, and principal factors that influence the patterns of speciation. *Prerequisite:* BIO 220.

BIO 227 Introductory Biochemistry; (3.0) 3 cr. An introduction to the structure-function relationships of biomolecules, enzymes, metabolic reactions & biochemical energetic of living cells. *Prerequisite:* BIO 211, *Prerequisite or Corequisite:* CHM 221

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 220 or BIO 227.

BIO 322 Virology (3.0); 3 cr. Provides a general overview on the classification, biophysical & biochemical characteristics of bacterial, plant and animal viruses. *Prerequisite:* BIO 212.

BIO 324 Plant Physiology (3.2); 4 cr. Basic principles of plant physiology; the physiological processes of green plants and the effect of the environment on these processes. *Prerequisite:* BIO 212 and 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 212.

BIO 413 Plant Tissue Culture and Biotechnology; (3.2) 4 cr. Principles and techniques for the in vitro culture, propagation, and genetic manipulation of plant cells. *Prerequisites:* BIO 212.

BIO 414 Ornamental Plant Materials, (3.0) 3 cr. Identification and description of ornamental plants suitable for Lebanon; discussion of cultural and aesthetic aspects of plants of value in ornamental plantings.

BIO 420 Neurobiology and Behavior (3.0); 3 cr. The course aims at highlighting the basic neural mechanisms which underlie all animal behavior, including the high cognitive processes such as learning and memory. The different types of neural circuits and nerve cell cross-talks in both invertebrates and vertebrates are considered. *Prerequisite:* BIO 212.

BIO 424 Conservation Biology; (3.0) 3 cr. The application of biological principles to issues in the conservation biology will be examined within a context that integrates biology, land management protection, 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) 3 cr. An independent research project in an area of biology under the direction of a faculty mentor. *Prerequisite:* Senior standing and consent of the instructor.

The Degree of Bachelor of Science in Chemistry

The Department of Sciences offers an undergraduate program in chemistry with concentrations in industrial chemistry and environmental chemistry. Industrial chemists are

involved in the process of design, production and analysis of a wide variety of chemicals and materials. Upon completion of the industrial chemistry degree, graduates can pursue a career in the chemical industries such as pharmaceutical, cosmetic, fibers, water treatment or food and beverages industries; or in related governmental or private organizations. Career options include process evaluation, quality control, supervision, pilot scale operations, management and sales. Graduates are also prepared to teach, or follow graduate studies.

The Environmental Chemistry program enables students to acquire the scientific and technical skills to reveal and evaluate environmental concerns related to industrial pollution and to propose potential solutions. Graduates can pursue careers in education, governmental, or nonprofit organizations. Career options include environmental education; environmental consulting; water, soil and air quality control and monitoring; pollution prevention; environmental toxicology. Graduates are well prepared to enter graduate schools.

Admission Requirements

For admission requirements to the degree of BS in Chemistry refer to the section entitled “Undergraduate Admission” of this catalog.

Graduation Requirements

To receive the degree of BS in Chemistry, a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total of 98 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements and clear all accounts with the university. Candidates for degrees are reminded that grades of “*T*” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (98 credits)

Option 1: Concentration - Industrial Chemistry

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
• ARB 211 or ARB 231	
• REG 212 or REG 213	
• One course of the following:	
PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306,	
FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205,	
FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following:	

HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201,⁶⁰ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201

e) Basic Science Studies

6 cr.

Two distinct courses of the following:

ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.

Core Requirements

29 cr.

CHM 211, CHM 215, PHS 212, PHS 271, MAT 213, MAT 224, MAT 235, STA 203, ACO 201, BAD 201

Major Requirements

36 cr.

CHM 221, CHM 222, CHM 272, CHM 321, CHM 322, CHM 325, CHM 430, CHM 432, CHM 434, CHM 440, CHM 490

Free Electives

6 cr.

⁶⁰ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

Option 2: Concentration - Environmental Chemistry

	Number of Credits (cr.)
General Education Requirements	27 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213• One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁶¹ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	
Core Requirements	29 cr.
CHM 211, CHM 215, PHS 212, PHS 271, MAT 213, MAT 224, MAT 235, STA 203, BIO 211, ENS 445	
Major Requirements	36 cr.
CHM 221, CHM 222, CHM 272, CHM 321, CHM 322, CHM 325, CHM 431, CHM 433, CHM 435, CHM 440, CHM 490	
Free Electives	6 cr.

⁶¹ Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**Bachelor of Science in Chemistry
Suggested Program (98 Credits)**

Fall Semester I (15 Credits)

CHM	211	Principles of Chemistry	3 cr.
MAT	213	Calculus III	3 cr.
STA	203	Biostatistics	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

Spring Semester I (16 Credits)

CHM	215	Quantitative Analysis	4 cr.
CHM	221	Organic Chemistry I	3 cr.
MAT	224	Calculus VI	3 cr.
—	—	GER	3 cr.
—	—	GER	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester II (14 Credits)

CHM	222	Organic Chemistry II	3 cr.
CHM	321	Physical Chemistry I	3 cr.
CHM	272	Organic Chemistry II Laboratory	2 cr.
MAT	235	Ordinary Differential Equations	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits)

CHM	322	Physical Chemistry II	4 cr.
CHM	325	Inorganic Chemistry	4 cr.
PHY	212	Electricity & Magnetism	3 cr.
PHY	271	Electricity & Magnetism Lab	1 cr.
—	—	GER	3 cr.

Option 1: Concentration - Industrial Chemistry

Fall Semester III (17 Credits)

BAD	201	Fundamentals of Management	3 cr.
CHM	430	Polymer Chemistry	4 cr.
CHM	432	Chemistry & Processing of Food	3 cr.
CHM	440	Instrumental Analysis	4 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

ACO	201	Principles of Accounting I	3 cr.
CHM	434	Materials Chemistry	4 cr.
CHM	490	Chemistry Project	2 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Option 2: Concentration - Environmental Chemistry

Fall Semester III (17 Credits)

BIO	211	General Biology I	4 cr.
CHM	431	Atmospheric Chemistry & Pollution	3 cr.
CHM	440	Instrumental Analysis	4 cr.
—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

CHM	433	Soil Chemistry & Pollution	4 cr.
CHM	435	Aquatic Chemistry & Pollution	4 cr.
CHM	490	Chemistry Project	2 cr.

ENS	445	Environmental Law & Regulations	2 cr.
—	—	Free Elective	3 cr

Undergraduate Courses: Chemistry

- CHM 101 General Chemistry I (3.0), 3 cr.** An introductory course about the atomic theory, chemical bonding and periodicity, stoichiometry; the state of matter, gases and solutions.
- CHM 102 General Chemistry II (3.0); 3 cr.** Cover chemical equilibrium, acids and bases, electrochemistry, an overview of the groups in the periodic table, and an introduction to organic chemistry and nuclear chemistry. *Prerequisite:* CHM 101.
- CHM 103 Introductory Chemistry (3.0); 3 cr.** Improves the students knowledge of the fundamental concepts in chemistry. The course brings about sharpening judgements on chemical questions and enhancing problem solving skills. The materials covered deal with stoichiometry, atomic structure, chemical periodicity and bonding, gases, thermochemistry, solutions, and chemical equilibria.
- CHM 171 General Chemistry I Laboratory (0.3); 1 cr.** Selected experiments in general chemistry I. *Corequisite:* CHM 101.
- CHM 172 General Chemistry II Laboratory (0.3); 1 cr.** Selected experiments in general chemistry II. *Corequisite:* CHM 102.
- CHM 211 Principles of Chemistry (3.0); 3 cr.** Deals with stoichiometry, gases, atomic structure, bonding, liquids, gaseous and solution equilibria. The course is designed for sciences and engineering students.
- CHM 215 Quantitative Analysis (3.2); 4 cr.** This course covers the different methods used in chemical analysis. The course includes chromatographic methods, gravimetric and volumetric techniques, complex formations, acid/base and redox titrations. *Prerequisite:* CHM 211.
- CHM 221 Organic Chemistry I (3.0); 3 cr.** Introduction to the basic principles and concepts of organic chemistry with an emphasis on the relation between structure and properties, chemistry of hydrocarbons and stereochemistry. *Prerequisite:* CHM 211.
- CHM 222 Organic Chemistry II (3.0); 3 cr.** A study of substitution and elimination reactions and of the chemistry of aromatic compounds, alcohols, ethers, epoxides, aldehydes and ketones, carboxylic acids and derivatives, amines and carbohydrates. *Prerequisite:* CHM 221.
- CHM 271 Principles of Chemistry Laboratory (0.2); 1 cr.** Introduction to laboratory techniques, selected experiments in chemical analysis. *Corequisite:* CHM 211.
- CHM 272 Organic Chemistry Laboratory (0.2); 2 cr.** Selected experiments in organic chemistry. *Corequisite:* CHM 222.
- CHM 273 Organic Chemistry Laboratory (0.2); 1 cr.** Selected experiments in organic chemistry. *Corequisite:* CHM 221.
- CHM 321 Physical Chemistry I (3.0); 3 cr.** Covers the Law of thermodynamics; macroscopic behavior of gases and kinetic molecular theory; chemical equilibrium; phase equilibrium; properties of ideal and nonideal solutions; electrochemistry. *Prerequisite:* CHM 211.
- CHM 322 Physical chemistry II (3.3); 4 cr.** Covers chemical kinetics and mechanisms of catalysis; surface chemistry and photochemical kinetics; introduction to statistical mechanics; the development of the atomic theory; present state of quantum theory of atoms and molecules; spectroscopy. *Prerequisite:* CHM 321.
- CHM 325 Inorganic Chemistry (3.3); 4 cr.** Covers electronic structure and properties of atoms; structure and bonding of inorganic substances, the unit cell, VSEPR theory, bond energies; periodicity and correlation with the electronic structure, properties of the main-group elements and the d-transition metals;

organometallic complexes and their applications in synthesis and catalysis. *Prerequisite:* CHM 211.

CHM 430 Polymer Chemistry (3.3); 4cr. Covers structure, characterization, synthesis and classification of polymers; mechanical properties; stability; and applications in packaging, insulators and fibers etc. *Prerequisite:* CHM 222 & CHM 322.

CHM 431 Atmospheric Chemistry & Pollution (3.0); 3 cr. Covers the chemical composition of the earth's atmosphere and the major factors that control its chemical composition. Emphasizes the effects of the biosphere and the changes induced by human activities. Topics such as climate change, ozone depletion, urban air pollution and acid rain will be developed. *Prerequisite:* CHM 322.

CHM 432 Chemistry & Processing of Food (3.0); 3 cr. Provides an overview of the chemical and physical properties of food components and additives. Covers the processing operations of important food classes (beverages, fruits and vegetables, dairy products); major chemical changes taking place during processing and storage of foods; and principal methods of analysis used in the food industry. *Prerequisite:* CHM 222.

CHM 433 Soil Chemistry & Pollution (3.3); 4 cr. Covers chemistry of inorganic and organic soil components with emphasis on environmental significance of soil solution-solid phase equilibrium, sorption phenomena, ion exchange processes, reaction kinetics, redox reactions, and acidity and salinity processes. Also covers soil pollution: sources, dispersion, and remediation methods. *Prerequisite:* CHM 215, CHM 222 & BIO 211.

CHM 434 Materials Chemistry (3.3); 4cr. Application of the basic concepts of chemistry to energy conversion (thermochemistry, nuclear chemistry), electrochemistry and materials (metals, ceramics, and polymers). *Prerequisite:* CHM 322.

CHM 435 Aquatic Chemistry & Pollution (3.3); 4 cr. Covers chemical, biological and toxicological properties of water and their effects on the biosphere. Substances that alter the natural water. Sources, reactions, transports and fates of organic, inorganic, and pathogenic pollutants in water. Analytical testing methods used to assess the toxicity impact of pollutants, and pollution remediation techniques. *Prerequisite:* CHM 215, CHM 222 & BIO 211.

CHM 440 Instrumental Analysis (3.3); 4 cr. Covers theory, practice and applications of modern analytical instrumentation: different aspects of instrumental analysis in areas of separation sciences and spectroscopy. Introduces instrumental methods of analysis, including gas and liquid chromatography; atomic, ultraviolet/visible, infrared, and fluorescence spectroscopy; nuclear techniques; and electrochemical methods. The use and the interpretation of data from these instruments will be practiced in the laboratory. *Prerequisite:* CHM 215.

CHM 490 Chemistry Project (2.0); 2 cr. Upon the consent of an advisor the student carries out a research project, gaining deeper skills in problem-solving, performing a literature review, experimental techniques, designing experiments, analyzing data and preparing a final report. *Prerequisite:* Senior standing.

The Degree of Bachelor of Science in Environmental Science

The recent environmental challenges on the local, regional and global 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.
a) Communications Skills ENL 221, ENL 239	6 cr.
b) Computer Skills CSC 201	3 cr.
c) Cultural Studies <ul style="list-style-type: none"> • ARB 211 or ARB 231 • REG 212 or REG 213 • One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201. 	9 cr.
d) Social Science Studies One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁶² ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	3 cr.
e) Basic Science Studies Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, AST 201.	6 cr.
 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 208, 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.

⁶² Students cannot receive credits for both ECN 200 and ECN 211 or ECN 212.

**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 Science (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 Science (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	208	Physics for Life Sciences I	3 cr.

Spring Semester II (16 Credits)

ENS	322	Water Pollution	3 cr.
GEO	311	Hydrogeology	3 cr.
CHM	215	Quantitative Analysis	4 cr.
STA	203	Biostatistics	3 cr.
—	—	GER	3 cr.

Summer Session II (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 Credits)

CSC	318	Geographical Information Systems	3 cr.
ENS	323	Air Pollution	3 cr.
ENS	430	Solid Waste Management	3 cr.
⁶³ ENS	—	Free Elective	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (17 Credits)

ENS	450	Environmental Impact Assessments	3 cr.
¹ ENS	—	Free Elective	3 cr.
¹ ENS	—	Free Elective	3 cr.
—	—	Free Elective	3 cr.
ENS	471	Field and Laboratory Work	3 cr.
ENS	485 or 490	Seminar or Senior Project	2 cr.

⁶³ Choose an environmental science course, 3 credits.

Undergraduate Courses: Environmental Science

ENS 201 Introduction to Environmental Science (3.0); 3 cr. Introduction to the basic environmental global problems facing the Earth with emphasis on pollution and the use of energy resources. *Prerequisite:* Sophomore Standing.

ENS 202 The Environment and Sustainable Development (3.0); 3 cr. Introduction to sustainable development: concepts, goals, ecological, economic and social aspects. Fundamental environmental issues in sustainable development: natural resources management, population, food production, energy. International organizations and efforts. Standards and policies. Emerging technological applications and their impact. Resolution of environmental conflicts.

ENS 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. Provides general understanding of how environmental factors are involved in the transmission of communicable diseases. Health hazards resulting from exposure to chemical and physical factors in the environment are emphasized as well.

ENS 321 Soil Pollution (3.0); 3 cr. Soil formation, soil chemistry. Soil erosion, weathering, salinity, soil rehabilitation. Soil contamination from environmental contaminants: Their fixation/mobility. Dispersion in the environment. Soil remediation methods.

ENS 322 Water Pollution (3.0); 3 cr. Natural water quality. Contaminant Hydrogeology: Chemical and physical contaminants. Marine Pollution. Problems arising from water treatment and resource use.

ENS 323 Air Pollution (3.0); 3 cr. Composition of the atmosphere. Climate and weather. Global atmospheric changes. Indoor and outdoor air pollution. Air pollution control processes, air pollutants dispersion modeling. *Prerequisite:* ENS 201.

ENS 332 Plants and Pollution (3.0); 3 cr. Biomes on Earth. Loss of biodiversity and desertification. Preventive measures. Forest resources and conservation. Interaction between plants and pollution, plant pollutant uptake and physiological responses. *Prerequisite:* BIO 212.

ENS 420 Energy Resources (3.0); 3 cr. Fossil fuels energy resources. Mineral resources. Alternative energy resources. Technological hazards and environmental impacts including political, economic and social consequences of their exploitation.

ENS 422 Pollution of Marine Environment, (3.0); 3 cr. Introduction to the marine ecosystems, sources and types of pollutants, environmental degradation and its impact. Marine pollution management. International legislation for the conservation of marine environment.

ENS 423 Water and Wastewater Quality and Treatment (3.0); 3 cr. Water and wastewater treatment processes. Consequent health impacts. Water and wastewater control techniques. Water protection.

ENS 424 Conservation Biology (3.0); 3 cr. The application of biological principles to issues in the conservation biology will be examined within a context that integrates biology, land management protection, 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 planning: The interactions of water, wood, wildlife, range fisheries, and recreation resources. *Prerequisite:* BIO 212.

ENS 430 Solid Waste Management (3.0); 3 cr. Solid waste management and disposal. Treatment processes: Recycling, composting, landfilling. Introduction to hazardous/toxic waste.

ENS 431 Industrial Waste Management (3.0); 3 cr. Industrial waste: sources, types, quality, quantity and impact assessment. Treatment processes and detoxification. Disposal.

ENS 440 Environmental Natural Hazards (3.0); 3 cr. Seismic hazards; volcanoes; Atmospheric hazards; floods and Hydrologic hazards; landslides and rockfalls; design with nature; human interaction with the environment; risk maps; case studies.

ENS 441 Mitigation Measures and Policies (3.0); 3 cr. Rehabilitation concepts; mitigation procedures, design, and methodology; application to quarries, landfills, coastal erosion, landslides, floods.

ENS 445 Environmental Law & Regulations (2.0); 2 cr. Provides an overview of national and international environmental law and regulations, enforcement, and liability. Emphasizes practical

working knowledge about the workings of environmental law, regulations, and the regulatory agencies. *Prerequisite:* Senior standing.

ENS 450 Environmental Impact Assessments (3.0); 3 cr. The assessment of a project environmental limitations, precautions, mitigation, legal measures and the various methodologies of technical investigation, monitoring and assessment.

ENS 451 Environmental Biotechnology (3.0); 3 cr. The use of biotechnology as it relates to various environmental technologies: biodegradation, remediation, biodegradable materials, energy saving process and chemical production from renewable resources. *Prerequisites:* BIO 211 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.

The Degree of Bachelor of Science in Medical Laboratory Technology

Medical Laboratory Technology (MLT) is a clinically-oriented curriculum that combines academic and professional training. It is designed specifically to meet modern requirements for the profession of medical laboratory technology. MLT is an important contributor to the

medical team involved in the diagnosis and treatment of 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 103 credits (including clinical training) , with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements (103 Credits)

	Number of Credits (cr.)
General Education Requirements	18 cr.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	6 cr.
• ARB 211 or ARB 231	
• REG 212 or REG 213	
d) Basic Science Studies	3 cr.
one course of the following:	
ENS 201, HEA 201, BIO 203, AST 201.	
Core Requirements	28 cr.
BIO 211, BIO 215, BIO 227, CHM 211, CHM 215, CHM 221, CHM 222, CHM 272, STA 203.	
Major Requirements	31 cr.
BIO 222, MLT 312, MLT 313, MLT 315, MLT 317, MLT 323, MLT 324, MLT 326, MLT 328, MLT 330, MLT 340, MLT 401, MLT 402.	
Free Electives	6 cr.
Clinical Training	20 cr.
MLT 410, MLT 420, MLT 430, MLT 440, MLT 450, MLT 460, MLT 470.	

**Bachelor of Science in Medical Laboratory Technology
Suggested Program (103 Credits)**

Fall Semester I (16 Credits)

BIO	211	General Biology I	4 cr.
CHM	211	Principles of Chemistry	3 cr.
ENL	221	Sophomore English for Science (GER)	3 cr.
CSC	201	Computers and Their Use (GER)	3 cr.
—	—	Free Elective	3 cr.

Spring Semester I (16 Credits)

BIO	215	Introductory Human Physiology	3 cr.
CHM	215	Quantitative Analysis	4 cr.
CHM	221	Organic Chemistry I	3 cr.
STA	203	Biostatistics	3 cr.
BIO	222	Immunology	3 cr.

Summer Session I (6 Credits)

ARB	211	or GER	3 cr.
	231		
ENL	239	Technical English for Science (GER)	3 cr.

Fall Semester II (16 Credits)

CHM	222	Organic Chemistry II	3 cr.
CHM	272	Organic Chemistry Laboratory	2 cr.
MLT	312	Clinical Chemistry I	3 cr.
MLT	313	Clinical Bacteriology I	3 cr.
MLT	315	Clinical Parasitology I	2 cr.
MLT	317	Clinical Pathology I	3 cr.

Spring Semester II (16 Credits)

BIO	227	Biochemistry	3 cr.
MLT	323	Clinical Chemistry II	3 cr.
MLT	324	Clinical Bacteriology II	3 cr.
MLT	326	Clinical Parasitology II	2 cr.
MLT	328	Clinical Pathology II	3 cr.
MLT	330	Clinical Histopathology and Cytology Techniques	2 cr.

Summer Session II (6 Credits)

REG	212	or GER	3 cr.
	213		
—	—	Free Elective	3 cr.

Fall Semester III (13 Credits)

MLT	340	Serology	2 cr.
MLT	401	Selected Topics in Laboratory Medicine I	1 cr.
—	—	Clinical Training*	10 cr.

Spring Semester III (14 Credits)

MLT	402	Selected Topics in Laboratory Medicine II	1 cr.
—	—	GER (Basic Sciences)	3 cr.
—	—	Clinical Training*	10 cr.

* Clinical Training per semester covers several courses from the following: MLT 410, MLT 420, MLT 430, MT 440, MLT 450, MLT 460, MLT 470.

MLT	410	Training in Clinical Chemistry	4 cr.
MLT	420	Training in Clinical Hematology	4 cr.
MLT	430	Training in Clinical Bacteriology	4 cr.
MLT	440	Training in Clinical Parasitology & Urinalysis	2 cr.
MLT	450	Training in Serology	2 cr.
MLT	460	Training in Blood Banking	2 cr.
MLT	470	Training in Phlebotomy, Cytogenetics & Histological Techniques	2 cr.

Undergraduate Courses: Medical Laboratory Technology

MLT 311 Clinical Chemistry I (2.0); 2 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite:* CHM 211.

MLT 312 Clinical Chemistry I (3.0); 3 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite:* CHM 211.

MLT 313 Clinical Bacteriology I (3.0); 3 cr. Fundamental aspects of basic and clinical bacteriology. The course consists of lectures and demonstrations in general bacteriology. *Prerequisite:* BIO 211.

MLT 315 Clinical Parasitology I (2.0); 2 cr. An introductory course on the theory and laboratory techniques used in the diagnosis of parasitic infections of humans. *Prerequisite:* BIO 211.

MLT 317 Clinical Pathology I (3.0); 3 cr. The course consists of lectures and demonstrations in hematology, serology and blood banking.

MLT 322 Clinical Chemistry II (2.0); 2 cr. Continuation of MLT 311. *Prerequisite:* MLT 311.

MLT 323 Clinical Chemistry II (3.0); 3 cr. Continuation of MLT 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 450 Practical Training in Serology 2 cr. Practical training in serology of 4 weeks duration.

MLT 430 Practical Training in Clinical Bacteriology 4 cr. Practical training in clinical bacteriology of 7 weeks duration.

MLT 460 Practical Training in Blood Banking 2 cr. Practical training in blood Banking of 4 weeks duration.

MLT 440 Practical Training in Clinical Parasitology and Urinalysis; 2 cr. Practical training in parasitology and Urinalysis 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 Nutrition

Nutrition and Dietetics is an interdisciplinary field that focuses on the principles of human nutrition and foods. Nutrition is the study of food intake influence on health and well-being. It covers specific nutrients' requirements in the diet, their physiological functions in the body and the consequences of nutrients deficiency. It requires an understanding of the composition of food and factors that determine food choice and availability. The study of nutrition also explores the role of diet in the causation of diseases of multi-factorial origin, such as heart disease, diabetes and cancer. The importance of nutrition in preventing diseases has now become well recognized in both developing and developed countries. Dietetics is becoming increasingly important in health promotion and wellness of people throughout the life cycle from infancy to old age and in the care of people who are ill. Rapid advances in medicine increase the dietitian's role as a member of the health care team.

Various career opportunities are available to the nutritionist and registered dietitian. Clinical nutritionists and dietitians work closely with other health professionals in hospitals, nursing homes, out-patient clinics, public health agencies, and food service/or food processing industries. Administrative dietitians direct the planning, purchasing, production and service of meals in medical centers, restaurants and schools. Holders of graduate degrees in nutrition and dietetics may teach in universities, or do research in the field. Experienced registered dietitians may become consultants and go into private practice.

Admission Requirements

For admission requirements to the degree of BS in Nutrition or BS in Nutrition and Dietetics refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Nutrition, 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.

To receive the degree of BS in Nutrition and Dietetics a student must fulfill all requirements of his/her degree program, complete all required courses, accumulate a total

of 114 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	18 cr.
a) Communications Skills ENL 221, ENL 239	6 cr.
b) Computer Skills CSC 201	3 cr.
c) Cultural Studies <ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213	6 cr.
d) Basic Science Studies One course of the following: ENS 201, HEA 201, BIO 203, AST 201.	3 cr.
Core Requirements BIO 211, BIO 215, BIO 227, BIO 320, CHM 211, CHM 215, CHM 221, CHM 273, BAD 201, HTM 313, PSL 201, SOL 201, STA 203	40 cr.
Major Requirements NTR 201, NTR 320, NTR 325, NTR 330, NTR 425, NTR 430, NTR 435, NTR 440, NTR 445, NTR 450, NTR 495	30 cr.
Free Electives	6 cr.

Bachelor of Science in Nutrition Suggested Program (94 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.
NTR	201	Basic Human Nutrition	3 cr.
PSL	201	Introduction to Psychology	3 cr.

Spring Semester I (14 Credits)

BIO	227	Introductory Biochemistry	3 cr.
CHM	215	Quantitative Analysis	4 cr.
CHM	221	Organic Chemistry I	3 cr.
CHM	273	Organic Chemistry Lab.	1 cr.
ENL	239	Technical English for Science (GER)	3 cr.

Fall Semester II (16 Credits)

CSC	201	Computers and their Use (GER)	3 cr.
HTM	313	Food Production	3 cr.
NTR	320	Food Chemistry	2 cr.
NTR	325	Food Analysis	2 cr.
SOL	201	Introduction to Sociology	3 cr.
-	-	(GER)	3 cr.

Spring Semester II (15 Credits)

BAD	201	Fundamentals of Management	3 cr.
BIO	215	Introductory Human Physiology	3 cr.
NTR	330	Community Nutrition	3 cr.
STA	203	Biostatistics	3 cr.
—	—	(GER)	3 cr.

Fall Semester III (16 Credits)

BIO	320	Microbiology	4 cr.
NTR	425	Food Processing	3 cr.
NTR	430	Advanced Human Nutrition	3 cr.
NTR	445	Introduction to Dietetics Profession	3 cr.
—	—	(GER)	3 cr.

Spring Semester III (17 Credits)

NTR	435	Nutrition in the Life Cycle	3 cr.
NTR	440	Therapeutic Nutrition	4 cr.
NTR	450	Dietetics: Counseling and Communication	2 cr.
NTR	495	Project in Nutrition	2 cr.
-	-	Free Elective	6 cr.

The Degree of Bachelor of Science in Nutrition and Dietetics

The nutrition and dietetics curriculum requires completion of the exact 3-years program of study as the nutrition curriculum plus a dietetics internship.

Degree Requirements (114 Credits)

	Number of Credits (cr.)
General Education Requirements	18 cr.
a) Communications Skills ENL 221, ENL 239	6 cr.
b) Computer Skills CSC 201	3 cr.
c) Cultural Studies <ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213	6 cr.
d) Basic Science Studies One course of the following: ENS 201, HEA 201, BIO 203, AST 201.	3 cr.
Core Requirements BIO 211, BIO 215, BIO 227, BIO 320, CHM 211, CHM 215, CHM 221, CHM 273, BAD 201, HTM 313, PSL 201, SOL 201, STA 203	40 cr.
Major Requirements NTR 201, NTR 320, NTR 325, NTR 330, NTR 425, NTR 430, NTR 435, NTR 440, NTR 445, NTR 450, NTR 495	30 cr.
Free Electives	6 cr.
Dietetics Internship Students enrolled in the Nutrition and Dietetics program shall follow internship in the Dietetics Department of an assigned hospital, under the supervision of a registered dietitian, for nine months. The overall internship shall cover the following courses: NTR 462, NTR 460, NTR 464, NTR 466, NTR 468, NTR 474, NTR 476.	20 cr.

Bachelor of Science in Nutrition & Dietetics
Suggested Program (114 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.
NTR	201	Basic Human Nutrition	3 cr.
PSL	201	Introduction to Psychology	3 cr.

Spring Semester I (14 Credits)

BIO	227	Introductory Biochemistry	3 cr.
CHM	215	Quantitative Analysis	4 cr.
CHM	221	Organic Chemistry I	3 cr.
CHM	273	Organic Chemistry Lab.	1 cr.
ENL	239	Technical English for Science (GER)	3 cr.

Fall Semester II (16 Credits)

CSC	201	Computers and their Use (GER)	3 cr.
HTM	313	Food Production	3 cr.
NTR	320	Food Chemistry	2 cr.
NTR	325	Food Analysis	2 cr.
SOL	201	Introduction to Sociology	3 cr.
-	-	(GER)	3 cr.

Spring Semester II (15 Credits)

BAD	201	Fundamentals of Management	3 cr.
BIO	215	Introductory Human Physiology	3 cr.
NTR	330	Community Nutrition	3 cr.
STA	203	Biostatistics	3 cr.
-	-	(GER)	3 cr.

Fall Semester III (16 Credits)

BIO	320	Microbiology	4 cr.
NTR	425	Food Processing	3 cr.
NTR	430	Advanced Human Nutrition	3 cr.
NTR	445	Introduction to Dietetics Profession	3 cr.
—	—	(GER)	3 cr.

Spring Semester III (17 Credits)

NTR	435	Nutrition in the Life Cycle	3 cr.
NTR	440	Therapeutic Nutrition	4 cr.
NTR	450	Dietetics: Counseling and Communication	2 cr.
NTR	495	Project in Nutrition	2 cr.
-	-	Free Elective	6 cr.

Year IV: Dietetics Internship (20 Credits)

NTR	462	Nutrition in the Life Cycle Practicum	4 cr.
NTR	460	Community Nutrition Practicum	2 cr.
NTR	464	Therapeutic Nutrition Practicum	4 cr.
NTR	466	Food Service Systems Practicum	4 cr.
NTR	468	Evaluation of Dietetics Practices	2 cr.
NTR	474	Advanced Therapeutic Nutrition Practicum	2 cr.
NTR	476	Advanced Food Service Systems Practicum	2 cr.

Undergraduate Courses: Nutrition and Dietetics

NTR 201 Basic Human Nutrition (3.0); 3 cr. An introduction to the study of carbohydrates, fats, proteins, vitamins and minerals and their effects on health. An overview of the processes of digestion, absorption and their metabolism. *Prerequisite:* Sophomore Standing and ENL 109.

NTR 212 Food Sanitation and Safety (3.0); 3 cr. Food microbiology and food hygiene; causes of food poisoning and food-borne infections; prevention and safety. *Prerequisite:* NTR 201.

NTR 320 Food Chemistry (2.0); 2 cr. Covers chemical composition, physical and sensory properties of foods. Focuses on the structural considerations of food components (water in foods, lipids, carbohydrates & proteins), chemicals in foods, browning reactions and flavor of foods. *Prerequisite:* CHM 221& BIO 227.

NTR 325 Food Analysis (1.2); 2 cr. Introduces the laboratory methods for chemical analysis of nutrients and chemicals in food products. *Prerequisite:* CHM 221. *Corequisite:* NTR 320.

NTR 330 Community Nutrition (3.0); 3 cr. Focuses on community nutrition education programs in schools, health centers, government institutions, and mass media. Emphasis on current research in assessing community nutrition program needs as well as program implementation.

NTR 430 Advanced Human Nutrition (3.0); 3 cr. Covers human physiological needs for energy requirements; body needs from food groups such as carbohydrates, proteins and fats; control of nutrient metabolism; and methods of the nutritional assessment. *Prerequisite:* NTR 201.

NTR 425 Food Processing (2.2); 3 cr. Covers the changes in basic constituents of foods (carbohydrates, lipids, proteins, vitamins, minerals, food enzymes, and water) resulting from processing and preparation. Focuses on the principles of food spoilage and food preservation, and the different laboratory

methods of food processing. *Corequisite:* BIO 320.

NTR 435 Nutrition in the Life Cycle (3.0); 3 cr. Covers the basic nutritional needs of people throughout their life cycle (infancy, childhood, adolescence, adulthood and elderly people) and the special nutritional requirements during pregnancy and lactation. *Prerequisite:* NTR 430

NTR 440 Therapeutic Nutrition (2.2); 3 cr. Covers the nutritional needs of individuals throughout their life cycle and in various diseases. Provides the students with an understanding of how nutritional status is assessed in relation to health and disease at the individual and community levels by covering case studies reports and study modules. *Prerequisite:* NTR 430.

NTR 445 Introduction to Dietetics Profession (3.0); 3 cr. Reviews basic skills needed by the dietician including nutritional care, ethics, role and responsibilities in various employment settings. *Prerequisite:* Senior standing.

NTR 450 Dietetics Counseling and Communication (2.0); 2 cr. Application of the principles of dietetics in a hospital setting. Focuses on the techniques in collection and interpretation of dietary intake. Emphasis on the team concept of patient care and strategies for promoting change in nutritional education. *Corequisite:* NTR 445.

NTR 485 Project in Nutrition (2.0); 2 cr. Emphasizes current research in nutrition and dietetics. *Prerequisite:* Senior standing and consent of instructor.

NTR 451 Advanced Nutrition I (3.0); 3 cr. Covers carbohydrates, proteins, lipids, fiber and other nutrients, and examines their body metabolism. *Prerequisite:* Senior standing and NTR 430.

NTR 452 Advanced Nutrition II (3.0); 3 cr. Covers the nutritional, biochemical and physiological aspects of vitamins and minerals in human body. *Prerequisite:* NTR 451.

NTR 455 Diet Therapy in Inborn Errors of Metabolism (3.0); 3 cr. The course deals with congenital defects that require special diet manipulations and possible nutrition support. *Prerequisite:* NTR 440.

The Degree of Bachelor of Science in Physics

If discovering the inner fundamental unity of the natural world, from 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 ground 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.
a) Communications Skills	6 cr.
ENL 221, ENL 239	
b) Computer Skills	3 cr.
CSC 201	
c) Cultural Studies	9 cr.
<ul style="list-style-type: none">• ARB 211 or ARB 231• REG 212 or REG 213• One course of the following: PHL 211, LIR 211, LIR 212, LIR 213, HUT 305, HUT 306, FAP 200, FAP 201, FAP 202, FAP 203, FAP 204, FAP 205, FAP 206, FAP 214, PHO 201.	
d) Social Science Studies	3 cr.
One course of the following: HIT 201, HIT 211, PSL 201, PSL 211, SOL 201, POS 201, ⁶⁴ ECN 200, ECN 211, ECN 212, MRK 201, HTM 201, BAD 201	
e) Basic Science Studies	6 cr.
Two distinct courses of the following: ENS 201, ENS 202, ENS 206, NTR 201, HEA 201, BIO 202, BIO 203, 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.

⁶⁴ 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)	3 cr.
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.

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.
—	—	GER	3 cr.
—	—	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 203 General Physics III (3.0); 3 cr. A course covering waves and corpuscles, sound, acoustics, reflection and refraction of light; interference and diffraction; polarization, spectrometry, and laser optics. *Prerequisite:* Sophomore Standing.

PHS 204 Applied Mechanics (4.0); 4 cr. Newton's laws and applications. Conservation of energy and linear momentum, collision. Rotational kinematics and dynamics, angular momentum and its conservation. Equilibrium. Oscillations. Universal gravitation. *Prerequisite:* Sophomore Standing.

PHS 205 Thermodynamics and Waves (4.0); 4 cr. An introduction to thermodynamics and the physics of waves: it covers concepts of

temperature and heat, the laws of thermodynamics, heat engine and refrigerators, entropy; the kinetic theory of gases. Added to these, it covers the basic concepts of waves: harmonic waves, energy, superposition principle, reflection of waves, standing waves, with applications to mechanical waves (sound, surface waves...) and light. *Prerequisite:* Sophomore standing.

PHS 207 Development of Science and Technology (3.0); 3 cr. The principal periods in the development of the scientific thought. The contribution of individuals like Aristotle, Ptolemy, Copernicus, Galileo, Newton, Darwin, Mendel, and Einstein. *Prerequisite:* Sophomore Standing.

PHS 208 Physics for Life Sciences I (3.0); 3 cr. This course covers mechanics, relativity, hydrostatics, hydrodynamics, thermodynamics, and the physics of waves, with special emphasis on biological applications, *Prerequisite:* Sophomore Standing.

PHS 209 Physics for Life Sciences II (3.0); 3 cr. This course covers electricity and magnetism, modern physics: early quantum theory with emphasis on atomic and molecular applications, spectroscopy, nuclear physics, statistical mechanics, with special emphasis on biological and medical applications. *Prerequisite:* Sophomore Standing.

PHS 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 experiments in electricity and magnetism. Emphasis is placed on statistical treatment of data and error estimation. *Corequisite:* PHS 212.

PHS 272 Modern Physics Laboratory (0.2); 1cr. Selected experiments in modern physics. Emphasis is placed on statistical treatment of data and error estimation. *Corequisite:* PHS 213.

PHS 278 Physics for Life Sciences I Lab (0.2); 1 cr. Lab to accompany PHS 208. Experiments are performed in Mechanics, Hydrodynamics, Heat transfer and Waves. *Corequisite:* PHS 208.

PHY 279 Physics for Life Sciences II Lab (0.2) 1 cr. Lab to accompany PHS 209. Experiments in Electricity and Magnetism: Hall Effect, Circuits, Helmholtz Coil, and Modern Physics: Blackbody Radiation, Spectroscopy... *Corequisite:* PHS 209.

PHS 301 Optics (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. *Corequisite:* 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); 3 cr. The first of two courses covering mathematical tools relevant to the solution of physical problems. Topics include diagonalization of matrices, transformation of coordinates, Jacobian, functions of complex

variables, gradient, curl, divergence, and elements of vector analysis. Both courses include a weekly lab session on a mathematical software package. *Prerequisite:* MAT 215, MAT 224.

PHS 350 Mathematical Methods for Physics II (3.1); 3 cr. Second of the series of two courses in mathematical tools of physics. Topics include partial differential equations, Fourier series and transforms, special functions, orthogonal functions, Greene's functions, integral equations. *Prerequisites:* MAT 215, MAT 224, MAT 235, PHS 346

PHS 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 271 and PHS 272.

PHS 403 Elementary Particle Physics (3.0); 3 cr. Survey of elementary particles: leptons, hadrons, and quarks. Invariance principles and conservation laws. Detectors and accelerators. Phenomenological study of interactions. *Prerequisite:* PHS 213, PHS 435.

PHS 405 Solid State Physics (3.0); 3 cr. Topics include crystal structure, the band theory, the free-electron and Fermi-Dirac theory, and the physical properties of semiconductors and metals. *Prerequisites:* EEN 210, EEN 211 and PHS 213.

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 and PHS 350.

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 303, 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. Not open to physics students

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: 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.

uses; groundwater movement, natural and artificial discharge. Groundwater erosion and deposition. Lebanon's water resources.

GEO 202 Geology for Architects (2.0) 2 cr. Minerals and Rocks, Earthquakes, Interpreting and Reading Topographical and Geological Maps, Geology of Lebanon, Laboratory Application and Field Trips.

GEO 312 Engineering Geology: 3 cr. Weather and soil-forming Processes: Application of engineering geology in foundations design; properties of rock substance and rock mass; Tunnels; Mass-Wasting Process; Ground Water in Engineering Geology; Fluvial Processes; Dams; Land subsidence; coastal engineering geology; Earthquakes; Case Studies. *Prerequisite:* GEO 201.

GEO 311 Hydrogeology (3.0); 3 cr. Hydrologic cycle; meteorology; groundwater resources and

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.

**FACULTY OF
POLITICAL SCIENCE,
PUBLIC ADMINISTRATION
AND DIPLOMACY
(FPSPAD)**

Dr. Michel Nehme, *Dean*

FACULTY DEPARTMENTS
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FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION AND DIPLOMACY

LIST OF FULL-TIME FACULTY MEMBERS

Professors

Keyrouz, Akl, Ph.D., 1969 *Political Science*, University of Utah, U.S.A

⁶⁵*Nehme, Michel*, Ph.D., 1983, *Political Science*, Rutgers University, New Jersey, U.S.A.

Associate Professors

Labaki, George, Doctorate, 1984, *Law*, Université de Paris-I, Pantheon, Sorbonne, France.

Haddad, Simon, Doctorate, 1999, *Sciences Politiques*, IEP, Paris

Salem, Naim, Ph.D., 1992, *International Studies*, University of South Carolina, USA

Assistant Professors

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

Sayah, Edward, Ph.D., 1988, *Public Administration & Economics*, University of North Texas, USA.

⁶⁶*Sensenig-Dabbous, Eugene*, Doktor Der Philosophie, 1985, *Political Science and German Literature*, Paris-Lodron-Universität, Salzburg, Austria

List of Staff Members

Nayla Bassil Basbous, B.A., 1990, Communication Arts, BUC-LCHE, Lebanon

⁶⁵ Tenure

⁶⁶ Prospective

FACULTY OF POLITICAL SCIENCE, PUBLIC ADMINISTRATION AND DIPLOMACY

Dean: *Dr. Michel Nehme*

Chairperson of Departments: *Dr. Chahine Ghais*

Administrative Assistant: *Mrs. Nayla Basbous*

Degrees Offered

The Faculty of Political Science, Public Administration and Diplomacy consists of three Departments:

Department of International Affairs and Diplomacy
Department of Political Science,
Department of Public Administration

The Faculty of Political Science, Public Administration and Diplomacy offers programs leading to the degrees of:

Bachelor of Arts in International Affairs and Diplomacy
Master of Arts in International Affairs and Diplomacy
Master of Arts in International Law

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 Degrees

Admission Requirements:

Compliance with the general rules and regulations applied by NDU in the general Catalogue.

Graduation Requirements:

Students seeking the degree of Bachelor of Arts in the Faculty of PSPAD must complete a total of 105 credits with an overall average of at least 2.0/4.0 and a minimum average of 2.3/4.0 in the core and major requirements.

Master's Degrees

Program Guidelines

The M.A. degrees in the Faculty of Political Science, Public Administration and Diplomacy, require each 36 credit hours, including a thesis. Courses are offered primarily in the late afternoon to allow students to pursue part-time employment or internship, if they so choose. The graduate programs require usually a minimum of four semesters of study depending on the full-time or part-time status of the student.

The main objectives are to train students for government and public service as well as for employment in business and non-profit sectors that employ graduates to lead their organizations and international operations.

The graduate programs require usually a minimum of four semesters of study depending on the full-time or part-time status of the student.

Objectives

The programs are intended to prepare and train in theory and practice students for careers in research, national and foreign diplomatic service, contemporary political and economic issues, public service, international and regional organizations, multi-national corporations, financial institutions, media enterprises and the like.

Admission Requirements

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p. 46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

- 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

DEPARTMENT OF INTERNATIONAL AFFAIRS AND DIPLOMACY

Chairperson of Departments: *Dr. Chahine Ghais*

The Department of International Affairs and Diplomacy offers three programs leading to the degrees of Bachelor of Arts and Master of Arts in International Affairs and Diplomacy and International Law.

The Degree of Bachelor of Arts in International Affairs and Diplomacy

The program of International Affairs and Diplomacy is designed to provide students with broad knowledge in the field. Graduates are prepared to work in several career areas. These include the Lebanese Government, notably the Ministry of Foreign Affairs; international and regional organizations such as the United Nations and its various agencies, multinational corporations, banking institutions, educational institutions, and, among others, media enterprises and the like.

Degree Requirements (105 credits)

General Education Requirements	27 cr.
ARB 211 or ARB 231, CSC 201, ENL 222, ENL 235, ENS 201, NTR 201, HIT 211, POS 201, REG 212 or REG 213.	
Major Requirements	45 cr.
IAF 211, PAD 201, IAF 231, IAF 301, POS 210, IAF 322, IAF 402, IAF 407, IAF 321, POS 350, POS 353, POS 382, IAF 401, IAF 409, IAF 490	
Electives in PSPAD (27 crs.), 3 of which should be taken in Economics.	27 cr.
ECN 200 or ECN 211 or ECN 212 or equivalent P.S: Students may choose to take 18 credits of those electives as a minor	
Free Electives	6 cr.
Minor in IAF (for non-IAF Majors only)	18 crs.
IAF 211, IAF 231, IAF 321, IAF ---, IAF ---, IAF ---	

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	212	Macro – economics	3 cr.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
POS	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.

Fall Semester III (15 Credits)

POS	382	Research Methods	3 cr.
IAF	401	Public International Law	3 cr.
IAF	407	International & Regional Organizations	3 cr.
IAF	402	Human Rights in Intl. Pol.	3 cr.
POS	345	Ethics & Leadership	3 cr.

Spring Semester III (15 Credits)

IAF	409	Foreign Pol. Making of the M. P.	3 cr.
IAF	490	Special Topics	3 cr.
IAF	471	Modern Europe	3 cr.
POS	421	Environmental Pol.	3 cr.
IAF	490	Special Topics in International Affairs	3 cr.

Undergraduate Courses: International Affairs and Diplomacy

IAF 211 Introduction to International Relations (3.0); 3 cr. An examination of the nature and evolution of the major concepts that shape international relations: the balance of power, the role of states in the international system, international law, and the elements of foreign policy. *Prerequisite:* ENL 107

IAF 231 World Political Geography (3.0); 3 cr. A general survey of states in the world that focuses on politically relevant geographic information: location, size, population, principal cities, major resources.

IAF 301 Modern Political Ideologies (3.0); 3 cr. An introduction to the most influential political ideas in the modern world since the mid-nineteenth century. The focus is on the ideologies that have been influential and effective in the international system. *Prerequisite:* ENL 107

IAF 321 Diplomacy: Theory and Practice (3.0); 3 cr. An examination of the principles and practice of diplomacy, international relations, and an analysis of the structures, functions, and procedures of diplomatic and consular services, including diplomatic privileges, immunities, and recruitment of diplomatic and consular personnel. *Prerequisite:* IAF 211 or consent of instructor.

IAF 322 Lebanese Diplomacy (3.0); 3 cr. Covers the legal and practical evolution of the Lebanese diplomatic corps and focuses on the framework within which Lebanese diplomacy operates, the direction(s) which it generally takes regionally and internationally, and the approaches and strategies followed. (Arabic/English).

IAF 401 Public International Law (3.0); 3 cr. A study of the sources of Public International Law and its application in interstate relations.

IAF 402 Human Rights in International Politics (3.0); 3 cr. This course covers the conceptual bases of the fundamental rights of the human being. It focuses on international principles, conventions, and treaties signed by governments on the question of human rights at the international, regional and national levels, and the ways and means through which violations of human rights may be documented and countered.

IAF 407 International and Regional Organizations (3.0); 3 cr. An examination of the structures, functions, and agencies of the United Nations and other regional international organizations, and their role in the international system. *Prerequisite:* IAF 211 or consent of instructor.

IAF 409 Foreign Policy Making of the Major Powers (3.0); 3 cr. An analysis of the making and objectives of the foreign policy of the major states in the international system in the context of globalization, the new world order, European integration, and other regional factors. *Prerequisite:* IAF 211 or consent of instructor.

IAF 453 Euro-Mediterranean Partnership (3.0); 3 cr. A study of the historical and Evolving relationships between Europe and the Middle East, and the factors of trade, resources, security, and geo-strategic consideration which influence these relationships.

IAF 471 Modern Europe and the European Union (3.0); 3 cr. A study of the European Union and its economic, political, social, financial, and legal institutions. Attention is given to the impact of the European integration process in Europe and beyond. *Prerequisite:* IAF 211 and IAF 312 or consent of instructor.

IAF 490 Senior Study (3.0); 3 cr. Special topics in International Affairs and Diplomacy.

The Degree of Master of Arts in International Affairs & Diplomacy

The program is designed to provide students with indepth knowledge in international affairs and diplomacy, national foreign service, and contemporary political and economic issues. It offers a variety of courses in international relations, comparative government, international organizations, international law, and draws on some courses in economics and business.

Admission Requirements

Refer to the University graduate admission policy, and the Faculty graduation policy.

Graduation Requirements

Students seeking the degree of M.A. in International Affairs and Diplomacy must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements

IAF 601, IAF 631, IAF 632, IAF 605, IAF 615, POS 681

9 cr.

Major-related Electives

Choose 4 courses from

IAF 602, IAF 604, IAF 621, IAF 633, IAF 635, IAF 641, IAF 645, IAF 651, PAD 604, PAD 657, POS 657, POS 659, POS 661

12 cr.

Free Electives

9 or 15 cr.

Option I: Thesis (IAF 699) in addition to 30 cr. Of course work

Option II: Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

Graduate Courses: International Affairs and Diplomacy

IAF 601 International Relations; Theory and Practice (3.0); 3 cr. The seminar surveys major theories of international relations and evaluates their utility for understanding international politics. It emphasizes: (1) The broad trends and theoretical frameworks which shape relations among states, both at the international and regional levels; (2) The implications of the

power factors on the external and domestic policies of states; and (3) The factors leading to international cooperation and confrontation and their implications.

IAF 602 Economics of International Politics (3.0); 3 cr. The course investigates the relationship between economic and political

processes in the international system, and the institutions involved in conducting these processes. Major theoretical understandings of international political economy are examined along with specific issues in the field. These issues include: International trade, trade and developing nations, transnational corporations, multinational investment, and the World Trade Organization.

IAF 604 Human Rights in International Politics (3.0); 3 cr. This seminar focuses on the role played by the UN and other intergovernmental organizations in protecting, promoting, and advancing these rights. Special emphasis is placed on problems of human rights violations worldwide, on international conventions, and the role of human rights organizations internationally.

IAF 605 International Organizations and Specialized Agencies (3.0); 3 cr. This seminar focuses on the role played by the UN and other intergovernmental organizations in international affairs. Special emphasis is placed on the operations of the specialized agencies (IMF, World Bank), the determinants of their policies, and the impact of these policies internationally.

IAF 615 Statesmanship and Diplomacy (3.0); 3 cr. Deals with the role of leaders and diplomats in protecting and promoting countries' interests and in influencing international politics, and addresses the factors that may guide or constrain statesmen in conducting foreign policy.

IAF 621 Contemporary International Issues (3.0); 3 cr. Provides an overview of the contemporary issues in international affairs that have political, strategic, and socio-economic significance in interstate relations. These issues range from ideological conflicts to technology and politics, warfare and politics, violence and terrorism, and nuclear proliferation.

IAF 623 The European Integration: Its Impact (3.0); 3 cr. Analysis of the institutional structures of the European Union. Emphasis is on the economic and political effects of the integration process on Europe and beyond.

IAF 631 U.S. Foreign Policy Making (3.0); 3 cr. The seminar explores the United States'

foreign policy-making from an institutional perspective. It focuses on Congress, the Presidency, and the relevant executive agencies. Attention is given to U.S. policy toward the Middle East.

IAF 632 Diplomacy (3.0); 3 cr. The focus in this seminar is on the role of diplomacy in interstate relations and how diplomacy can facilitate interaction among governments and nations and help to achieve national goals. It emphasizes the basics of diplomatic negotiations and bargaining along with the etiquettes of diplomatic and political relations.

IAF 633 Comparative Foreign Policy (3.0); 3 cr. The focus in this course is on how foreign policy is made in the context of a state's declared objectives. A primary attention is directed to the foreign policy-making of the major states in the international system and the various processes used to accomplish political goals. Ideologies, national interest, and the type of political system are focused upon insofar as they shape a state's foreign policy direction.

IAF 641 Public International Law (3.0); 3 cr. A graduate seminar that deals with the sources and development of international law, with a special attention given to current trends and problems. A critical evaluation of contemporary problems of world legal order is provided, covering issues related to global resources regimes, war, social and economic and trade laws.

IAF 645 Political Risk Analysis (3.0); 3 cr. This course aims at investigating current international events and highlighting their potential negative impacts in the political, economic, social, and business arenas. Students will be given case studies in the detection and analysis of risk indicators and their probable consequences.

IAF 651 Comparative Economic Systems (3.0); 3 cr. A study of the major economic systems around the world in their theories as well as practices. Emphasis is on comparing and contrasting the tenets of these systems, how they are applied, and their advantages and shortcomings.

IAF 657 Politics of International Economic Relations (3.0); 3 cr. Theories of international interdependence, dependence, and integration; politics of decision making on protectionism and international finance; role of multinational corporations in world political economy; North-South debate; economic issues and national security.

IAF 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 Master of Arts in International Law

Objectives:

In an increasingly interactive world influenced by state and non-state actors in which governments, peoples, and large varieties of organizations and multinational corporations interact on a daily basis through an enormity of contracts, regulations, laws and procedures, it has become required that higher educational institutions stress in their academic curricula the importance of International Law. This specialty helps students understand the basic different legal systems applied in international relations.

Admission Requirements:

Compliance with the general rules and regulations applied by NDU in the general Catalogue.

Graduation Requirements

Successful completion of 36 semester credits with an overall GPA of at least 3.0/4.0. Courses are divided into:

Degree Requirements (36 credits)

Core Requirements

INL 626, INL 636, POS 681

9 cr.

Major-related Electives: choose 4 courses

INL 620, INL 622, INL 624, INL 628, INL 630, INL 634, INL 640, INL 642, INL 644, INL 646, INL 648, INL 650, CPL 627, CPL 635, CPL 637, CPL 639, CPL 661

15 cr.

Free Electives

9 or 15
cr.

Option I: Thesis (INL 699) in addition to 30 credits of course work.

Option II: Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

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.

INL 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 law.

DEPARTMENT OF POLITICAL SCIENCE

Chairperson of Departments: *Dr. Chahine Ghais*

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

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.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

**Degree Requirements
(105 credits)**

General Education Requirements **27 cr**
CSC 201, ENL 222, ENL 235, HIT 211, POS 201
ARB 211 or ARB 231, REG 212 or REG 213, ENS 201, NTR 201.

Major Requirements **45 cr.**
IAF 211, IAF 401, IAF 407PAD 201, PAD 241, PAD 302, POS 210, IAF 301,
POS 345, POS 350, POS 353, POS 382, , IAF 409, POS 442, POS 490.

Electives in PSPAD (27 crs.) 3 of which should be in Economics. **27 cr.**
ECN 200 or 211 or 212 or equivalent
P.S.: Students may choose to take 18 credits of those electives as a minor.

Free Electives **6 cr.**

Minor in Pol.Sc. (for non-Pol.Science. Majors only) **18 cr.**
POS 210, POS 350, IAF 211, POS ---, POS ---, POS ---

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.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 Credits)

PAD	241	Admin. Law	3 cr.
IAF	301	Modern Pol. Ideologies	3 cr.
POS	350	Comp. Government & Pol.	3 cr.
POS	210	Gov. & Inst. Of Lebanon	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits)

POS	331	Judicial Politics	3 cr.
PAD	302	Elements of Pub. Policy	3 cr.
POS	442	Lebanese Const. Law	3 cr.
POS	353	Gov. & Politics of the M.E.	3 cr.
—	—	Major elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 Credits)

POS	345	Ethics & Leadership	3 cr.
POS	317	Pol. Parties, Pub. Op. Pressure Gr.	3 cr.
IAF	402	Human Rights in Intl. Pol.	3 cr.
IAF	407	Intl. & Regional Org.	3 cr.
—	—	Major Elective	3 cr.

Spring Semester III (18 Credits)

POS	421	Environmental Pol.	3 cr.
POS	479	Gov. & Pol. Of US	3 cr.
IAF	401	Public Intl. Law	3 cr.
POS	409	Foreign Pol. Making of the Major Powers	3 cr.
POS	490	Special Topics in Pol. Science	3 cr.

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 Groups, and American culture. The major program will equip students with professional preparation in the respective areas to include: Public sector, foreign service, international and regional organizations, multi-national corporations, banking institutions, media and other enterprises.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

Degree Requirements (105 credits)

General University Requirements **27 cr**
CSC 201, ENL 222, ENL 235, HIT 211, POS 201, ARB 211 or ARB 231, REG 212 or REG 213, ENS 201, NTR 201.

Major Requirements **45 cr.**
IAF 211, , IAF 401, IAF 407, PAD 201, PAD 241, PAD 302, POS 210, IAF 301, POS 345, POS 350, POS 353, POS 382 IAF 409, POS 442, POS 490.

Electives in PSPAD (27 crs.) 3 of which should be taken in Economics. **27 cr.**
ECN 200 or 211 or 212 or equivalent
P.S. Students may choose to take 18 credits of those electives as a minor

Free Electives **6 cr.**

Minor in Pol. Sc. **18 cr.**
AMS 305, AMS 316, AMS 408, AMS 481, AMS 483, POS 473

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.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Fall Semester II (15 Credits)

AMS	316	American History	3 cr.
IAF	301	Modern Pol. Ideologies	3 cr.
POS	350	Comp. Government & Pol.	3 cr.
POS	210	Gov. & Inst. Of Lebanon	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits)

POS	331	Judicial Politics	3 cr.
PAD	302	Elements of Pub. Policy	3 cr.
AMS	481	American Const. Law	3 cr.
IAF	321	Diplomacy: Theory & Practice	3 cr.
—	—	Major Elective	3 cr.

Summer Session II (9 Credits)

—	—	Major Elective	3 cr.
—	—	Free Elective	3 cr.

Fall Semester III (15 credits)

POS	345	Ethics & Leadership	3 cr.
POS	317	Pol. Parties, Pub. Op. Pressure Gr.	3 cr.
IAF	402	Human Rights in Intl. Pol.	3 cr.
IAF	407	Intl. & Regional Org.	3 cr.
AMS	408	American Foreign Policy	3 cr.

Spring Semester III (15 Credits)

POS	421	Environmental Pol.	3 cr.
POS	479	Gov. & Pol. Of US	3 cr.
IAF	401	Public Intl. Law	3 cr.
POS	490	Special Topics in Pol. Science	3 cr.
—	—	Major Elective	3 cr.

Degree of Bachelor of Arts in Political Science – Euro- Mediterranean Studies Concentration

The program is designed to provide students with in-depth awareness of the discipline of Political Science in general and concentrates on Euro-Mediterranean studies. In addition to the general Political Science courses, students take courses which include Modern European Thought, European Politics, European Civic Politics, special topics, Politics and Culture of Russia and Eastern Europe.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

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, NTR 201.

Major Requirements 45 cr.

IAF 211, , IAF 401, IAF 407, PAD 201, PAD 241, PAD 302, POS 210, IAF 301, POS 345 POS 350, POS 353, POS 382, IAF 409, POS 442, POS 490.

Electives in PSPAD (27 cr.) 3 of which should be taken in Economics 27 cr.

ECN 200 or 211 or 212 or equivalent

P.S: Students may choose to take 18 credits of those electives as a minor.

Free Electives 6 cr.

Minor in PSPAD 18 cr.

EMS 303, EMS 371, EMS 391, EMS 483, EMS 490, IAF 471

Bachelor of Arts in Political Science - Euro-Mediterranean Studies Concentration
Suggested Program (105 Credits)

Fall Semester I (15 Credits)

POS	201	Intro. to Pol. Science	3 cr.
IAF	211	Intro. To Intl. Relations	3 cr.
ENL	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.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Fall Semester II (15 Credits)

EMS	303	Modern European Thoughts	3 cr.
IAF	301	Modern Pol. Ideologies	3 cr.
POS	350	Comp. Government & Pol.	3 cr.
POS	210	Gov. & Inst. Of Lebanon	3 cr.
—	—	GER	3 cr.

Spring Semester II (15 Credits)

POS	331	Judicial Politics	3 cr.
EMS	391	European Politics	3 cr.
EMS	371	European Civic Politics	3 cr.
IAF	321	Diplomacy: Theory & Practice	3 cr.
—	—	Major Elective	3 cr.

Summer Session II (9 Credits)

—	—	Major Elective	3 cr.
—	—	Major Elective	3 cr.
—	—	Free Elective	3 cr.

Fall Semester III (15 Credits)

POS	345	Ethics & Leadership	3 cr.
IAF	453	Euro-Mediterranean Partnership	3 cr.
IAF	402	Human Rights in Intl. Pol.	3 cr.
IAF	407	Intl. & Regional Org.	3 cr.
AMS	408	American Foreign Policy	3 cr.

Spring Semester III (15 Credits)

POS	421	Environmental Pol.	3 cr.
IAF	471	Modern Europe	3 cr.
IAF	401	Public Intl. Law	3 cr.
—	—	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 Contemporary History of Lebanon (3.0); 3 cr. Covers Lebanon's contemporary history. Political, economic and social developments are stressed.

HIT 201 History of Lebanon (3.0); 3 cr. Covers the history of Mount Lebanon and its

neighboring area, from the Arab conquest until independence. *Prerequisite:* ENL 105.

HIT 211 History of Lebanon and the Middle East (3.0); 3 cr. Deals with the Middle East since the beginning of the Ottoman domination till the present. *Prerequisite:* ENL 107.

Undergraduate Courses: Political Science

POS 101 Principles of Politics & Government (3.0); 3 cr. Introduces the basic political philosophies and governmental processes, and the relationships between rights, liberties, and responsibilities of individuals and governments.

POS 201 Introduction to Political Science (3.0); 3 cr. Covers the basic concepts in political science. *Prerequisite:* ENL 107.

POS 210 Governments and Institutions of Lebanon (3.0); 3 cr. An introduction to the various characteristics that have shaped the Lebanese political system. An introduction to the processes of parliamentary, executive, administrative, and judiciary government is provided.

POS 212 Political History of the Near East Until World War I (3.0); 3 cr. A survey of political history and culture of the Mediterranean civilizations.

POS 240 Law and Society (3.0); 3 cr. Nature, purposes and sanctions of law sources of law private and public law. Common and civil law, courts and administration of justice. This course is a prerequisite to all law courses. *Prerequisite:* ENL 107.

POS 317 Political Parties, Public Opinion, Pressure Groups (3.0); 3 cr. 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.

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 480 Internship 1 cr. or POS 481 Internship 2 cr. or POS 482 Internship 3 cr. A supervised on-the-job working experience in International Affairs, Public Administration or Political Science. The internship will be done in cooperation with recognized international and national institutions and organizations from the public and private sector. Interns will have the opportunity to develop new skills by working under the direction and supervise of an experienced practitioner and acquire new skills. A minimum of 120 hours of internship is required. A detailed report is to be submitted as a record of the work accomplished.
Prerequisite: Senior standing.

POS 490 Senior Study - Special Topics in Political Science (3.0);3 cr.

Degree of Master of Arts in Political Science

The department of Political Science offers graduate work leading to the Master of Art in Political Science. This Master's program is aimed at those students planning or embarking upon a career in public service and in related fields.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

Degree Requirements (36 credits)

Core Requirements POS 681, IAF 601, PAD 604	9 cr.
Major Electives POS 611, POS 619, POS 657, POS 659, PAD 618, PAD 627, PAD 652, PAD 654, IAF 604, IAF 605, IAF 615, IAF 633, IAF 641, IAF 645	15 cr.
Free Electives: <i>Option I:</i> Thesis 6 cr. (POS 699) in addition to 30 cr. Of course work.	9 or 15 cr.
<i>Option II:</i> Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.	

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 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.

Degree of Master of Arts in Comparative Law

In the present world referred to as the “Global Village”, and in view of the international global system controlled to a great extent by non-governmental, multi-national corporations, where governments, peoples, businesses and others do interact on a daily basis through an enormity of contracts, regulations, laws and procedures, it has become necessary to stress in academic curricula the importance of Comparative Law. This specialty would help students of law understand the basic different legal systems applied in the world.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

**Degree Requirements
(36 credits)**

Core Requirements **9 cr.**
CPL 603, CPL 605, CPL 625.

Major-related Electives: choose 5 courses **15 cr.**
CPL 607, CPL 611, CPL 615, CPL 627, CPL 629, CPL 633, CPL 635, CPL 637, CPL 639, CPL 645, CPL 661, CPL 681, CPL 689, CPL 699

Free Electives **9 or 15 cr.**

Option I: thesis 6 cr. (CPL 699) in addition to 30 cr. Of course work.

Option II

Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

Graduate Courses: Comparative Law

CPL 603 Comparative Concepts and Issues of Justice (3.0); 3 cr. Issues relating to justice policies, perspectives, techniques, roles, institutional arrangements, management, issues of research and innovative patterns to prevent crises and delinquency

CPL 605 Current Issues in Human Rights and Global Justice (3.0); 3 cr. The first part of this course focuses on the dramatic changes in the creation and enforcement of international human rights law that have taken place since World War II. Notwithstanding serious challenges from a variety of sources, no government in the world publicly dissents from the acceptance of support for human rights. Students will examine the existing international human rights regime and explore the impact of the UN charter, the Universal Declaration, and various multilateral and regional human rights treaties and regimes on the behavior of nations today. Using cases from the M.E., Europe, US and international courts, the course will the 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 of Departments: *Dr. Chahine Ghais*

The Department of Public Administration offers three programs leading to the degrees of Bachelor of Arts in Public Administration and in Criminal Justice, and Master of Arts in Public Administration.

Degree of Bachelor of Arts in Public Administration

The program is designed to equip students with comprehensive awareness of the discipline of Public Administration. The major courses will provide students with in-depth knowledge of the field, and will afford them a smooth and solid transition into the graduate studies as well as professional preparation in the following areas: public sector in various ministries of government, budgeting and the budget process, foreign service, International and regional organizations, multi-national corporations, banking institutions, and other enterprises.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

**Degree Requirements
(105 credits)****General Education Requirements** **27 cr.**

CSC 201, ENL 222, ENL 235, ARB 211 or ARB 231, HIT 211, ENS 201 or NTR 201, REG 212 or REG 213, POS 201.

Major Requirements **45 cr.**

IAF 401, PAD 201, PAD 241, PAD 302, PAD 312, PAD 332, PAD 421, PAD 422, PAD 461, PAD 462, PAD 490, POS 210, POS 345, POS 382, POS 442.

Electives in PSPAD (27 cr.), 3 of which should be taken in Economics. **27 cr.**

ECN 200 or 211 or 212 or equivalent

P.S: Students may choose to take 18 credits of those electives as a minor.

Free Electives **6 cr.****Minor in PAD (for non-PAD Majors)** **18 cr.**

PAD 201, PAD 302, PAD 332, PAD ---, PAD ---, PAD ---

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	212	Principles of Macro - Economics	3 cr.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	Free Elective	3 cr.

Fall Semester II (15 Credits)

PAD	241	Admin. Law	3 cr.
POS	301	Modern Pol. Ideologies	3 cr.
POS	350	Comp. Governments & Pol.	3 cr.
ENL	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. *Prerequisite or Corequisite:* ENL 107.

PAD 241 Administrative Law (3.0); 3 cr. (Arabic/English) Studies law governing the organization, powers and contracts procedures of the executive and administrative establishments.

PAD 302 Elements of Public Policy (3.0); 3 cr. Studies consumer protection, natural resources, environmental protection in relation to science and technology.

PAD 312 Regulatory Politics (3.0); 3 cr. Studies the development and implementation of governmental policies regulating business activities, consumer and labor.

PAD 322 International Political Economy (3.0); 3 cr. Studies the contemporary issues in international political economy approaches, global welfare, international debts, equality, ecology.

PAD 332 Administration Behavior and Organization Theory (3.0); 3 cr. Examines the consideration of theories seeking to explain administrative behavior, evidence for and against those theories as applied to governments.

PAD 421 Fiscal and Budgetary Policy of Lebanon (3.0); 3 cr. A study of the budgetary process from a legal and economic perspective. Topics include, among others, the public debt, taxation, and financial policy.

PAD 422 Political Administration Development (3.0); 3 cr. Illustrates topics such as: Politics of social changes, comparative urbanization, political administrative development caused by various legal, social, religious and political factors.

PAD 435 Regional & Urban Planning (3.0); 3 cr. Examination of the theory, objectives, and methods of the planning process stressing economic distribution and ideological differences. *Optional:* case study.

PAD 461 Comparative Public Administration (3.0); 3 cr. Comparative public administration and theory. Bureaucracies and their input on the political development process.

PAD 462 Public Management (3.0); 3 cr. Analysis of advanced public management techniques. Problems of implementing techniques: Case study and research.

PAD 490 Senior Study - Special Topics in Public Administration (3.0); 3 cr. Special topics in Public Administration.

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, Notre Dame University, Louaize opted to join the on-going dialogue on man as a socio-political constituent. More than ever before the World's progress is influenced by the protection and enhancement of

human rights and security within the confines of a democratic political system based on equality and justice.

The program is designed to provide students with 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, legal areas and services.

**Degree Requirements
(105 credits)**

General University Requirements **27 cr.**

CSC 201, ENL 222, ENL 235, POS 201, ARB 212 or 231, REG 212 or 213, ENS 201, NTR 201, HIT 211

Core Requirements **30 cr.**

CJS 200, CJS 201, CJS 222, CJS 250, CJS 315, SOL 313, POS 442, POS 240, CJS 411, CJS 420

Major Requirements **30 cr.**

CJS 211, CJS 311, CJS 321, CJS 322, CJS 430, CJS 433, CJS 441, CJS 461, CJS 487, CJS 490.

Major Electives: **12 cr.**

Choose 4 courses from: PAD 201, PAD 241, PAD 322, CJS 455, SOL 312, PSL 201, IAF 402, POS 323, POS 240, POS 382, POS 421.

Free Electives **6 cr.**

**Bachelor of Arts in 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.
—	—	Major Elective	3 cr.

Summer Session I (6 Credits)

—	—	GER	3 cr.
—	—	GER	3 cr.

Fall Semester II (15 Credits)

CJS	211	Crime & Justice in America	3 cr.
CJS	250	Introd. To Private Security	3 cr.
CJS	311	Pol. Violence: Strategy, Tac. & Prescription	3 cr.
CJS	315	The Correctional Community	3 cr.
SOL	313	Family Violence & Child Abuse	3 cr.

Spring Semester II (15 Credits)

CJS	321	Peace Officers Standards & Trg.: Adm.	3 cr.
POS	442	Lebanese Const. Law	3 cr.
CJS	322	Peace Officers Trg.: Statues	3 cr.
CJS	430	Lebanese Criminal Law	3 cr.
—	—	GER	3 cr.

Summer Session II (9 Credits)

—	—	Major Elective	3 cr.
—	—	Free Elective	3 cr.
—	—	GER	3 cr.

Fall Semester III (15 Credits)

CJS	411	Org. & Adm. In Criminal Justice	3 cr.
CJS	420	Critical Issues in Law Enforcement	3 cr.
CJS	433	Ethical Studies in Criminal Justice	3 cr.
CJS	441	Probation & Parole	3 cr.
—	—	Free Elective	3 cr.

Spring Semester III (15 Credits)

CJS	461	Juvenile Justice Processes	3 cr.
CJS	487	Research in Criminal Justice	3 cr.
CJS	490	Special Topics in Criminal Justice	3 cr.
—	—	Major Elective	3 cr.
—	—	Major Elective	3 cr.

Undergraduate Courses: Criminal Justice

CJS 200 History of Criminal Justice (3.0); 3 cr. An introduction to the historical development of the Roman and Anglo-American criminal justice systems from their inception to the present time.

CJS 201 Survey of Criminal Justice (3.0); 3 cr. Overview concerning an understanding of the purpose of law enforcement, courts, penal institutions, probation, parole, and the role of the police officer in contemporary society.

CJS 211 Crime and Justice in America (MGM) (3.0); 3 cr. An overview of the components, structure, and functioning of the criminal justice system in America, including crime victims, law enforcement, courts, corrections, probation, parole, community corrections and juvenile justice

CJS 222 Crime and Justice in Lebanon (3.0); 3 cr. An overview of the components, structure, and functioning of the criminal justice system in Lebanon, including crime victims, law enforcement, courts, corrections, probation, parole, community corrections and juvenile justice. The majority of course time will document the failures of the system to provide equal justice to all people, especially women, children and people of culturally diverse backgrounds.

CJS 250 Introduction to Private Security (3.0); 3 cr. Introduces students to the principles of private security. Includes threat assessment, risk prevention, protection of assets, security systems, and a consideration of the issues, standards and goals of private security.

CJS 311 Political Violence: Strategy, Tactics and Prescriptions (3.0); 3cr. Examines the practice of political violence: the strategy and tactics adopted by those who engage in violence as well as those who eschew violence.

CJS 315 The Correctional Community (3.0); 3 cr. Critical examination of historical development and theories in the functions of correctional development, theories and institutions of punishment and social control. Analysis of contemporary issues: (1) the social

systems of prisoners and guards; (2) institutional administration and legal issues in management; policy and strategies of intervention; (3) decision-making in sentencing and parole; and (4) treatment and custodial philosophies and programs. Emphasis will be on a systemic evaluation of research literature.

CJS 321 Peace Officers Standards and Training: Administration (3.0); 3cr. Study of principles of law enforcement, career influences, stress/crisis intervention, crime prevention, community relations, court testimony, law enforcement communications, and cultural awareness.

CJS 322 Peace Officers Standards and Training: 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: CJS 222

CJS 431 Criminal Procedures (3.0); 3 cr. Development of the law of criminal procedures from arrest through post-trial proceedings.
Prerequisite: CJS 222

CJS 433 Ethical Studies in Criminal Justice (3.0); 3 cr. Development of ethical decisions relating to criminal justice issues.

CJS 441 Probation and Parole (3.0); 3 cr. Examines probation and parole as organizations, sentencing dispositions, and medicures of rehabilitation. The student conducts simulated interviews, pre-sentence investigations and prepares recommendations to the court.
Prerequisite: CJS 222

CJS 455 Private Security and the Criminal Justice Community (3.0); 3 cr. The powers and authority of private security personnel. Stresses requirements and restrictions on private security. Includes criminal and civil liabilities faced by private security personnel.
Prerequisite: CJS 250

CJS 461 Juvenile Justice Processes (3.0);3 cr. Focuses on the development of justice for youth;

the current conflicts within the system; its weaknesses and strengths. Primary emphasis will be on Lebanon's procedure.

CJS 487 Research in Criminal Justice (3.0); 3 cr. An introduction to the theoretical and practical consideration of research in criminal justice. Examination of research designs, conceptualization and operationalization of research methods: qualitative and empirical methods of inquiry; analytical techniques, data collection and processing; interpretation of criminal justice research findings.

CJS 490 Seminar in Criminal Justice (3.0); 3 cr. Devoted to an exploration and analysis of special issues in the field of corrections, law enforcement, and the general areas of the administration of justice: includes detailed examinations of vital issues and emerging trends which promise to affect the future.

The Degree of Master of Arts in Public Administration

The department of Public Administration offers graduate work leading to the Master of Arts in Public Administration. This Master's program is aimed at those students planning or embarking upon a career in public service.

Admission Requirement

In addition to the University graduate admission requirements, applicants should have a B.A. in Political Science, or Public Administration, or International Affairs and Diplomacy, International Law, or other related fields.

Successful passing of the EET Entrance Exam with a minimum score of 650 is required. (p.46 general catalogue). Students' undergraduate GPA of 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, and the following prerequisite courses may be required of non-major applicants.

For M.A. in Political Science:

IAF 211, POS 201, POS 210 or equivalent by petition.

For M.A. in Public Administration :

PAD 201, POS 201, POS 201 or equivalent by petition.

For M.A. in International Affairs and Diplomacy :

IAF 211, IAF 321, POS 201 or equivalent by petition.

For M.A. in International Law:

POS 201, IAF 401, POS 442

Graduation Requirements:

Students seeking the degree of M.A. in the Faculty of PSPAD must meet the University graduation requirements and complete one of the following two options with a G.P.A. of at least 3.0/4.0:

1. 36 credits of course work in addition to a comprehensive written and oral examination; or
2. successful completion of 30 credits course work and six credits thesis.

**Degree Requirements
(36 credits)**

Core Requirements

IAF 601, PAD 604, POS 681.

9 cr.

Major Electives:

15 cr.

PAD 602, PAD 618, PAD 620, PAD 629, PAD 632, PAD 652, PAD 654, IAF 641, IAF 645, POS 619, POS 625, POS 661, INL 626, INL 636,

Free Electives:

**9 or
15 cr.**

Option I: Thesis 6 cr. (PAD 699) in addition to 30 cr. Of course work.

Option II: Successful completion of 36 credits of course work culminating in a comprehensive written and oral exam.

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 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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