LEBANESE
AMERICAN
UNIVERSITY

ACADEMIC CATALOGUE
2002 - 2003
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Calendar</td>
<td>1</td>
</tr>
<tr>
<td>Historical Background</td>
<td>3</td>
</tr>
<tr>
<td>Board Leadership</td>
<td>4</td>
</tr>
<tr>
<td>Statement of Purpose</td>
<td>4</td>
</tr>
<tr>
<td>Academic Affairs Policy</td>
<td>5</td>
</tr>
<tr>
<td>Academic Program</td>
<td>8</td>
</tr>
<tr>
<td>Major Fields of Study</td>
<td>8</td>
</tr>
<tr>
<td>Supporting Facilities and Programs</td>
<td>9</td>
</tr>
<tr>
<td>Campuses</td>
<td>13</td>
</tr>
<tr>
<td>Student Life</td>
<td>14</td>
</tr>
<tr>
<td>Admissions Rules and Procedures</td>
<td>15</td>
</tr>
<tr>
<td>Academic Rules and Procedures (Undergraduate)</td>
<td>17</td>
</tr>
<tr>
<td>Academic Rules and Procedures (Master’s Degrees)</td>
<td>25</td>
</tr>
<tr>
<td>General University Requirements</td>
<td>30</td>
</tr>
<tr>
<td>Course Numbers and Their Meaning</td>
<td>31</td>
</tr>
<tr>
<td>The School of Arts and Sciences</td>
<td></td>
</tr>
<tr>
<td>AAS Programs</td>
<td></td>
</tr>
<tr>
<td>BA Programs</td>
<td></td>
</tr>
<tr>
<td>BS Programs</td>
<td></td>
</tr>
<tr>
<td>MA/MS Programs</td>
<td></td>
</tr>
<tr>
<td>Course Descriptions</td>
<td></td>
</tr>
<tr>
<td>The School of Business</td>
<td></td>
</tr>
<tr>
<td>AAS Programs</td>
<td></td>
</tr>
<tr>
<td>BS Programs</td>
<td></td>
</tr>
<tr>
<td>MBA Program</td>
<td></td>
</tr>
<tr>
<td>Course Descriptions</td>
<td></td>
</tr>
<tr>
<td>The School of Engineering and Architecture</td>
<td></td>
</tr>
<tr>
<td>AAS Program</td>
<td></td>
</tr>
<tr>
<td>BA Program</td>
<td></td>
</tr>
<tr>
<td>B.ARCH. Program</td>
<td></td>
</tr>
<tr>
<td>BE Program</td>
<td></td>
</tr>
<tr>
<td>BS Program</td>
<td></td>
</tr>
<tr>
<td>Course Descriptions</td>
<td></td>
</tr>
<tr>
<td>The School of Pharmacy</td>
<td></td>
</tr>
<tr>
<td>Rules and Regulations</td>
<td></td>
</tr>
<tr>
<td>Program</td>
<td></td>
</tr>
<tr>
<td>Course Descriptions</td>
<td></td>
</tr>
<tr>
<td>Full-Time Faculty</td>
<td></td>
</tr>
<tr>
<td>Presidents and Administrative Officers</td>
<td></td>
</tr>
<tr>
<td>Tuition and Other Fees</td>
<td></td>
</tr>
<tr>
<td>Centers and Institutes</td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td></td>
</tr>
</tbody>
</table>
## ACADEMIC CALENDAR 2002-2003

### September 2002
- **Fri. 27**: Deadline for intercampus transfer for Fall 2002
- **Mon. 30**: New Student Orientation Program

### October 2002
- **Wed. 2**: New student registration begins
- **Thu. 3**: Fall 2002 classes begin
- **Thu. 3 - Mon. 7**: Registration, cross-registration and drop/add
- **Tue. 8 - Wed. 9**: Late registration for all students (with late registration fee)
- **Tue. 8 - Mon. 14**: Collection of billing invoices for Fall 2002
- **Thu. 17**: Deadline for payment of Fall 2002 tuition and fees

### November 2002
- **Fri. 1**: Holiday, All Saints Day
- **Fri. 22**: Holiday, Independence Day

### December 2002
- **Thu. 5 - Sat. 7**: Holiday, Al-Fitr
- **Tue. 24**: Winter vacation begins (6:00 PM), Christmas and New Year

### January 2003
- **Thu. 2**: Winter vacation ends, classes resume (8:00 AM)
- **Thu. 9**: Deadline for withdrawal from courses for Fall 2002
- **Fri. 17**: Deadline for intercampus transfer for Spring 2003
- **Fri. 24**: Fall 2002 classes end
- **Mon. 27 - Tue. 4**: Fall 2002 final exams

### February 2003
- **Sun. 9**: Holiday, St. Maroun's Day
- **Sat. 8 - Wed. 19**: Registration, cross-registration and drop/add
- **Tue. 11 - Thu. 13**: Holiday, Al-Adha
- **Mon. 17**: New student registration begins
- **Tue. 18**: Spring 2003 classes begin
- **Thu. 20**: Late registration (with late fee)
- **Thu. 20 - Wed. 26**: Collection of billing invoices for Spring 2003
- **Fri. 28**: Deadline for payment of Spring 2003 tuition and fees

### March 2003
- **Tue. 4**: Holiday, Moslem New Year
- **Thu. 13**: Holiday, Ashoura
April 2003
Tue. 15    Deadline for Fall 2002 incomplete grades
Fri. 18    Holiday, Good Friday (Western)
Mon. 21    Holiday, Easter Monday (Western)
Fri. 25    Holiday, Good Friday (Eastern)
Mon. 28    Holiday, Easter Monday (Eastern)

May 2003
Thu. 1     Holiday, Labor Day
Tue. 6     Holiday, Martyrs Day
Tue. 13*   Holiday, Prophet’s Birthday
Mon. 19 - Fri. 23 Payment of deposit for Fall 2003
Fri. 23    Deadline for withdrawal from courses for Spring 2003
Tue. 27 - Fri. 30 Registration for Fall 2003, for current students

June 2003
Fri. 6     Spring 2003 classes end
Mon. 9 - Tue. 17 Spring 2003 final exams
Wed. 18    Deadline for intercampus transfer for Summer 2003 Module I
Sat. 21 - Wed. 25 Registration, cross-registration, drop/add for Summer Module I
Wed. 25    Summer 2003 Module I classes begin
Thu. 26    Later registration for Summer Module I (with late fees)
Thu. 26 - Fri. 27 Collection of billing invoices for Summer Module I
Mon. 30    Deadline for payment of Summer Module I tuition and fees

July 2003
Thu. 10    Commencement exercises - Byblos campus
Sat. 12    Commencement exercises - Beirut campus
Fri. 18    Deadline for withdrawal from courses for Summer Module I
Fri. 25    Summer Module I classes end
Mon. 28 - Tue. 29 Final exams, Summer Module I

August 2003
Sat. 2 - Wed. 6 Registration, cross-registration and drop/add for Summer 2003 Module II
Wed. 6     Summer Module II classes begin
Thu. 7     Late registration for Summer Module II (with late fees)
Thu 7 - Fri. 8 Collection of billing invoices for Summer Module II
Mon. 11    Deadline for payment of Summer Module II tuition and fees
Fri. 15    Holiday, St. Mary’s Day
Fri. 29    Deadline for withdrawal from courses for Summer Module II

September 2003
Wed. 10    Summer Module II classes end
Thu. 11 - Fri. 12 Final exams

* Tentative dates
The Lebanese American University (LAU) is a multi-campus career-oriented institution which prepares students for responsible living, fully aware of the rich heritage and multiple needs of their respective communities.

With its three campuses in Beirut, Byblos and Sidon, the university is at the crossroads of many interacting educational systems. Lebanon’s academic freedom is essential to a climate of intellectual growth and the fruitful confluence of cultures. The country’s rich multi-faceted heritage enhances the student body’s international character, representing over 60 nationalities.

The university’s early days in 1835 find a reminder in an engraved column in Beirut’s city center: “Site of the first edifice built as a school for girls in the Turkish Empire.” The modest beginnings spawned the American School for Girls. Then in 1924 a two-year program was added to the high school, providing a junior college curriculum. In 1927 the American Junior College for Women (AJCW) became a separate institution and was transferred to Ras Beirut. Six years later it moved to its present location.

In 1948-49 the AJCW program was expanded into a university-level institution under the name of Beirut College for Women (BCW). During that academic year, it was granted a provisional charter by the Board of Regents of the University of the State of New York and authorized to bestow the Associate in Arts (AA) and Associate in Applied Sciences (AAS) degrees for a two-year course. In 1955 the Board of Regents granted the College an absolute charter with all its rights and privileges, including the authority to hand out Bachelor of Arts (BA), Bachelor of Science (BS), Associate in Arts and Associate in Applied Science degrees. As a recognized university-level liberal arts college, it played a key role in serving the educational, social and economic needs of the Middle East.

In 1970 another milestone was reached when the Lebanese Government officially recognized BCW’s BA and BS degrees as equivalent to the national Licence. Having accepted men into some AA programs, the college in 1973 changed its name to Beirut University College (BUC). The following academic year five BA/BS majors were opened to male students, and in October 1975 men were admitted into all programs. In 1978, BUC opened an off-campus program in the north and a year later another one was operational in the south.

Adding to the college’s constantly evolving programs, in 1985, the Board of Regents amended the charter to include two branches. In 1987, based on the amended charter, BUC opened its northern branch on the outskirts of the historical port of Byblos in rented buildings in Amsheet. In October 1991 classes started in the newly built campus at Blat overlooking Byblos. It was officially inaugurated on July 16, 1992. The southern Sidon branch operates in rented facilities until a spacious campus overlooking the port city is built in Majdalyoun.

According to a Board decision, BUC became a university in October 1992. In 1994, the Board of Regents in New York approved BUC’s request to change into the Lebanese American University (LAU), and the power to offer professional and master’s degrees, as the institution grew to include three professional schools.

To make the university a center of research and learning for the community, several cultural and outreach programs were added to the academic process in recent years. Twelve institutes were established to provide advanced training to professionals from Lebanon and the Middle East. A Center for Lebanese Heritage has been established at the Byblos campus in order to collect and preserve works related to Lebanon in all fields. The Center for Leadership and Civic Responsibility will provide the students and the public with workshops, conferences, courses and research opportunities to increase awareness of such values as peace, justice, democracy, human rights and ethics.
The university, as an institution chartered by The Board of Regents of the University of the State of New York, has a Board of Trustees of nine to 25 members which, according to New York State law, must be constituted so that at least two-thirds of its members are United States citizens. The current Board includes 15 Americans and eight Middle Easterners, with one of the latter serving as its chairman.

The members of the Board of Trustees also serve as members of a larger Board of Overseers (a majority of whom must be Middle Easterners). The two Boards meet together twice a year—once in Lebanon and once in the United States. This combined Board, which is directly responsible for the organizational, administrative, educational, spiritual and financial well-being of the university, is a self-perpetuating body of 25 to 45 voting members. The Board also has ex-officio members representing the various constituencies of the institution.

The Lebanese American University, which was founded by the Presbyterian Church (USA), is a multi-campus career-oriented university which shares the spiritual concerns of its founders in the search of God’s Living Truth. Its objective is to serve the educational needs of Lebanon and the Middle East by being a community that is intellectually stimulating and responsive to the dynamics of its environment. In the pursuit of this objective, the University seeks:

- to serve men and women from Lebanon, the Middle East and other countries by providing equal opportunities to all;
- to help students acquire a proficiency in their chosen fields and a sense of professional ethics; without regard to nationality, race or religion in an international environment;
- to evolve socially responsible students who give leadership to their communities and will be responsive to their various cultural traditions;
- to develop a love of beauty, a sense of curiosity and a life-long eagerness for learning;
- to administer an American-type curriculum modified to local needs and which meets the standards of the U.S. chartering agency;
- to develop the students’ ability to think logically, critically and creatively and to communicate effectively;
- to provide an intellectually stimulating atmosphere characterized by responsible freedom in search for truth;
- to forge individuals who work towards world peace, justice and the fulfillment of human rights;
- to maintain a center for experimentation and innovation and a resource center for higher education in the Middle East;
- to develop ecologically conscious students who respond to the needs of their environment.
ACADEMIC AFFAIRS POLICY

A. Academic Freedom:

Academic freedom is essential to the free search for truth and its free expression. Freedom in teaching is fundamental for the protection of the rights of the faculty member in teaching and of the student in learning. The institutional freedom of the University safeguards the environment in which free scholarships may flourish. Academic freedom imposes distinct responsibilities on the faculty member and on the Institution.

Faculty members are entitled to freedom in the classroom in discussing their subject, but they should be careful not to introduce into their teaching controversial matters which have no relation to the subject. They may not use their contacts with students or their position as members of the University faculty to insist upon the acceptance of their own personal views. Faculty members should stimulate and guide the student, and the process of learning should be a reciprocal one between faculty member and student.

Faculty members are citizens, members of learned professions, and officers of an educational institution. When they speak or write as citizens, they should be free from institutional control, but their special positions in the community impose special obligations. As learned individuals, they should remember that both their professions and their institution may be judged by their public comments. Hence, their comments should be accurate while exercising appropriate restraints and showing respect or the opinions of others and for the established policy of their institutions at all times. While they may identify themselves with the Institution, they should clearly indicate that they do not speak for the Institution unless specifically commissioned to serve in such capacity.

The University as an Institution of learning should be free of outside pressure and control. At the same time, it has an obligation to refrain from any interference in affairs outside its jurisdiction, specifically from any attempt to exercise political influence. In fulfilling this obligation, all those who speak or write in the name of the University should recognize the necessity of exercising tact and restraint.

B. Academic Role:

With regard to the academic role, the policy of the University shall be to:

1. Offer academic programs that serve the educational and occupational needs of the Middle East with due regard to programs offered in other institutions of higher education in Lebanon.
2. Co-operate with other institutions of higher education in the area to ensure that these needs are adequately met.
3. Provide students with opportunities to develop such personality traits as independence, resourcefulness, self confidence and leadership.
4. Offer Graduate Programs in those fields in which it has successful record and/or where need is manifest.
5. Offer the Bachelor of Arts and Bachelor of Science Degrees with the License equivalence by requiring of all Lebanese applicants the Lebanese Baccalaureate (or its equivalence); non Lebanese student applicants will normally enter into four-year programs for the same degrees.
6. Offer two year community college programs leading to the Associate in Applied Science and Associate in Arts degrees and one year certificate programs for applicants presenting a high school diploma or the equivalent.
7. Provide students with opportunities to develop the full range of their capabilities through experiences generally more abundantly available for them in a small academic community.
8. Offer undergraduate programs which include the following:
   A. A core of interdisciplinary courses as a foundation for a liberal education.
   B. A range of 36-42 semester credit hours of required course work for a major in a certain discipline in the School of Arts and Sciences.
   C. An internship in the major field (when feasible) in which students demonstrate their ability to apply creatively their theoretical knowledge to concrete problems outside of the classroom.
   D. An integrative experience in which students demonstrates their ability to relate their major filed to other disciplines.
9. Offer professional degrees and career oriented programs when the need is demonstrated.
10. Establish strong ties and cooperative programs with
institutions outside Lebanon so as to give LAU high international visibility and enable the Institution to provide wider services to its public.

11. Establish “Summer Institutes” designed to provide condensed education in specific topics so as to ensure LAU’s regional and international prominence in these topics.

12. Gradually increase the emphasis on research (especially on applied research) as an element that will improve the teaching and learning process while maintaining that the University’s primary educational priority is given to effective teaching and that the research component comes in to support the teaching process.

13. Establish a Center for Research and Development to act as the University’s extended arm to the community on one hand and the vehicle of sponsored research on the other.

14. Offer a continuing education program that meets the needs of the University graduates who want to update their academic knowledge, the needs of mature individuals who desire to have college level education but did not have the chance to do so at an earlier time, and the needs of the social and business communities that may require specially tailored courses to meet their specific requirements.

C. Educational Standards

1. Academic Rules and Procedures shall be developed by the Faculty through the Curriculum Council for the guidance of the academic community of the University. These rules and procedures shall be readily available to students, faculty and staff and shall be reprinted (as appropriate) in full or in condensed form in the University catalog, Student Handbook and Faculty Handbook.

2. Graduation Requirements:
   Requirements for graduation with a Master’s Degree, Bachelor’s Degree or an Associate Degree shall be in accordance with the requirements established by the Board of Regents of the University of the State of New York and/or the Lebanese Government.
   a. Master’s Degree: A minimum of 24 semester credit hours with a minimum grade point average of 3.0 in all courses taken leading to a Master’s degree and a thesis of original work which may be replaced by 6 credit hours of course work are required for graduation with a Master’s Degree.
   b. Master’s of Business Administration Degree: A minimum of 30 semester credit hours with a minimum GPA of 3.0 in all courses leading to the degree and a thesis of original work which may be replaced by six credit hours of course work are required for graduation with an MBA Degree.
   c. Bachelor’s Degree: A minimum of 120 semester credit hours for those entering as freshmen and 90 credit hours for those entering as sophomores are required for graduation with a Bachelor’s degree. Such credit shall be with a minimum cumulative grade point average of 2.0 and a minimum grade point average of 2.0 of all courses taken in this major.
   d. Associate of Arts and Associate in Applied Science: A minimum of 60 credit hours are required for an AA or an AAS Degree. Such credit shall be with a minimum cumulative grade point average of 2.0 and a minimum grade point average of 2.0 of all courses taken in the major (the science courses being the major courses in the General Sciences option and the Liberal Arts option being without a major).
   e. Bachelor of Architecture: A minimum of 150 semester credit hours shall be required for a Bachelor of Architecture Degree. Such credit shall be with a minimum cumulative grade point average of 2.0 and a minimum grade point average of 2.0 in all Architecture courses.
   f. Bachelor of Engineering: A minimum of 150 semester credit hours shall be required for a Bachelor of Engineering. Such credit shall be with a minimum cumulative grade point average of 2.0 and a minimum grade point average of 2.0 in all Engineering courses.
   g. Bachelor of Science in Pharmacy: A minimum of 160 semester credit hours shall be required for a Bachelor of Pharmacy. Such credit shall be with a minimum cumulative grade point average of 2.0 and a minimum grade point average of 2.0 in all Pharmacy courses.

3. Internal Evaluation procedures shall be established to review annually the teaching competence of all faculty members by the students, by the faculty through the appropriate bodies, and by the Division Chairs and the Deans.

4. External Evaluation procedures shall be established to review annually the academic program of the University. The Board of Overseers through its Academic Affairs Committee shall conduct an annual
audit of the academic standards of the University. A systematic testing program of incoming sophomores and graduating seniors shall be routinely utilized to judge the teaching effectiveness of the faculty and the learning efficiency of the students against the standards of other comparable institutions in Lebanon and in other countries.

D. Academic Service:

1. Academic Records shall be established to reflect accurately the academic achievement of students, the duties and academic accomplishments of the faculty and the key academic information needed to judge the academic standards of the institution utilizing the commonly accepted approaches in higher education.

2. Liberal Resources shall be made available to support adequately the academic offerings of the University. The library budget shall normally be from 5 to 10% of the educational budget of the University (the direct educational costs plus the pro rata share of both general and administrative expense and campus services or plant operation and maintenance expense).

3. Learning Laboratory facilities shall be established to augment the traditional classroom teaching methods and to utilize the latest educational technological aids to teaching and shall include programmed learning, language laboratory equipment, reading laboratory equipment, films, records, audio tapes, video tapes, computers and the related auxiliary equipment.

4. Information Center facilities shall be for the general use of all students to encourage individual experimentation and to assist in defraying the costs of typing papers and thesis.

E. Faculty Duties:

The prime duty of the Faculty shall be to serve the students entrusted to them by giving them the best educational experience possible within the constraints of the financial resources available. In accordance with the By-laws of the University, the Faculty shall be responsible to the Board through the Deans, the Vice President for Academic Affairs, and President for the academic standards and programs of the University and shall take the steps necessary to assure good standards through the use of and comparison with generally accepted international standards. The Faculty shall assume responsibility for keeping itself abreast of the latest educational developments throughout the world and shall develop innova-
ACADEMIC PROGRAM

The Lebanese American University is a dynamic and innovative multi-campus university engaged in higher education in a constantly changing world. To maintain a curriculum attuned to the needs of the Middle East and modern world, the university’s administration feels obligated to swiftly implement any changes promoting greater effectiveness in the academic program. LAU, therefore, reserves the right to change any aspect of its program or policies and procedures described in this catalogue, to carry out its educational goals effectively.

LAU is dedicated to the search for truth through a curriculum providing a variety of intellectual experiences and a stimulating academic community responsive to the region’s educational and social needs.

All students must complete a general educational curriculum (see “General University Requirements” on p. 30) in the liberal arts aimed at introducing them to interrelationships among several disciplines. These courses help students gain a broader understanding of humanity through the social sciences, fine arts, humanities, natural sciences and languages.

The areas of concentration are detailed in the section entitled “Major Fields of Study.” Students wishing to pursue an individualized course of study may design programs in consultation with their faculty advisors. The programs will be recorded at the Registrar’s Office as part of their graduation requirements.

Most students have required internship programs linked to their major fields of study or to interdisciplinary studies, enabling them to relate their courses to actual experiences in their chosen fields. Moreover, students are required to take the Senior Study course involving a research paper or project. To stimulate students to be adventurous in their quest for knowledge, academic regulations allow them to take one free elective a semester for a Credit or No-Credit grade. A passed Credit grade counts towards graduation but does not confer points for a student’s Grade Point Average.

MAJOR FIELDS OF STUDY

The Lebanese American University offers several major fields of study in addition to area programs or individualized interdisciplinary study programs leading to the following degrees:

SCHOOL OF ARTS AND SCIENCES

Associate Degrees:

• Associate in Arts (AA) in: Communication Media, Liberal Arts.
• Associate in Applied Science (AAS) in: Computer Science, General Science, Graphic Design.

Bachelor’s Degrees:

• Bachelor of Arts (BA) in: Communication Arts, Education, English, Fine Arts, International Affairs, Political Science, Psychology, Social Work, Teaching of Arabic as a Foreign Language (TAFL).
• Bachelor of Science (BS) in: Biology, Chemistry, Computer Mathematics, Computer Science, Graphic Design, Mathematics Education, Science Education.

Master’s Degrees:

• Master of Arts (MA) in: Education, International Affairs.
• Master of Science (MS) in: Computer Science, Molecular Biology.

SCHOOL OF BUSINESS

Associate Degrees:

• Associate in Applied Science (AAS) in: Business Management, Office Management.

Bachelor’s Degrees:

• Bachelor of Science (BS) in Business Studies, Economics, Hospitality & Tourism Management.
Supporting Facilities and Programs

LEARNING RESOURCES CENTER

LIBRARIES

Beirut

The Beirut Campus Library, located at the Learning Resources Center, is a medium-sized facility which holds approximately 145,000 information records and 886 printed periodical titles. It includes a collection for children of about 7,500 books in English, Arabic and French, housed in Shannon Hall.

The children’s library is the earliest and largest collection for children in Lebanon supporting courses on children’s literature, library science as well as services to the community.

There are about 3,300 books and 2,500 documents relating to women, as part of the research center of the Institute for Women’s Studies in the Arab World. The resource materials are updated on a regular basis.

The Library is also equipped with 30 Internet workstations from which users can access online resources and search the Library’s electronic catalog. Other resources include maps, pamphlets, records, films and learning materials. The audio-visual resources collection focuses especially on the arts and is used as an instructional tool.

The Beirut Library has established Document Delivery Services, a system through which LAU researchers may request specific documents, journal articles or even unpublished materials, which are later delivered via mail, e-mail or fax.

SCHOOL OF ENGINEERING AND ARCHITECTURE

Associate Degree:

- Associate in Applied Science (AAS) in Interior Design

Bachelor’s Degrees:

- Bachelor of Architecture (B.Arch.)
- Bachelor of Arts (BA) in Interior Architecture
- Bachelor of Engineering (BE): Civil, Computer, Electrical, Industrial, Mechanical.
- Bachelor of Science (BS) in Interior Design

SCHOOL OF PHARMACY

Bachelor’s Degree: Bachelor of Pharmacy (B.Pharm.)
Doctorate Degree: Doctor of Pharmacy (Pharm.D.)

SPECIAL PROGRAMS

- Excelsior College Degree (See page 17)
- Certificate Programs (See page 17)
- Diplomas (See page 17)
- Language Skills Programs:
  - Intensive English
  - Special Arabic
Byblos

Established in 1987, the Byblos Library holds more than 65,000 volumes and subscribes to over 700 printed periodicals including magazines, journals and newspapers. Users also have access to a reference collection, periodical indexes, microforms, and, electronic resources such as databases and online journals.

Under the supervision of the library exists the AV Center, where films and videotapes are collected to be circulated, and where equipment such as slide projectors, TVs, VCRs, etc., are available for borrowing.

Sidon

The Sidon library holds approximately 5,000 volumes and 65 periodical titles.

LEARNING LABORATORIES

Modern learning laboratories, which play an important role in the learning process, are located on the Beirut and Byblos campuses. Students use programmed texts, slides, cassettes, filmstrips, etc., for the development of different skills and increased effectiveness in basic learning tools.

AUDIO-VISUAL CENTER

The Audio-Visual Center, located at the Learning Resources Center on the Beirut campus, is the office that allocates audio-visual equipment for use in classes, lectures, conferences, etc. A-V equipment is also available in Byblos and Sidon.

MIMEOGRAPHING OFFICE

This office provides almost 90% of the photocopying needs of the faculty and staff. Lamination and simple binding are also provided.

COMPUTER FACILITIES

Beirut

Academic Computer Center

The Academic Computer Center (Sage Hall) operates a variety of sophisticated, state-of-the-art and networking facilities to support the academic and research activities. The facilities include: a Data General AViiON 5225 minicomputer under UNIX, 22 terminals, three Windows 2000-Xeon Compaq servers, 105 PCs, GIS facility, seven Sun workstations used for research and advanced computing, a multimedia lab and a Silicon Graphics Indigo workstation. Students are well exposed to ARC/INFO software under Windows NT. All PCs and peripherals are networked. Internet and electronic facilities are available on all computer stations to serve students, faculty and staff.

Business Computer Center

The Business Computer Center, located in Nicol Hall, contains 42 PCs distributed as follows:

- 25 HP Vectra Pentium IV
- 1 HP Vectra Pentium IV supervisor workstation
- 1 IBM Server
- 8 HP Pentium II
- 7 IBM Pentium III

This center is used by Business students to develop skills on professional business software applications. This is achieved through computer assignments given to students in various courses in the fields of accounting, finance, statistics, economics, research, management, management information systems, etc.

Graphic Design Computer Lab

The Graphic Design computer lab (Nicol Hall) is equipped to support the newly launched Graphic Design program, which features intensive instruction in electronic media design and illustration. It houses 20 Ethernet-networked Macintosh G3 computers at 300 Mhz; an Apple Laserwriter 8500 Postscript printer, also hooked up to the Ethernet network; two scanners, a CD recorder and a digital camera. The center is used for classes and is also open for free practice or assignments outside class hours.

Newsroom

At the LAU Newsroom (Nicol Hall), journalism students sharpen their writing, editing and layout skills in a computerized setting. The facility is used for classes and for free practice outside class hours. The Newsroom is equipped with eight G3 Macintosh computers at 300 Mhz, 12 Macintosh Performa 5200, a Performa 8100 and a Mac II CI. Peripherals include two Elite Postscript laser printers, an Epson Stylus 1520 A2 Postscript color printer. For information resources, the Newsroom provides an Internet connection. It also provides four e-mail connections for students.
Byblos

In Byblos, the Academic Computer Center is composed of 230 stations located in 6 locations. All these stations are part of the domain of the Academic Computer System. They compose the academic domain where students can use any station as long as they enter their proper User Name and Password. The main platform that the system is based on is the Windows 2000 active directory system. It is frequently upgraded whenever Microsoft releases its latest versions. Other platforms are also available, a Sun lab that contains 10 stations and 2 Ultra servers are integrated into the Academic Domain. Linux is installed on all PCs where students can chose during the boot session which operating system to use. Also the Linux system is totally integrated into the system. Mac OS is present in this domain at the design lab. The centers are located in as follows:

1. General computer center. It contains 68 PCs, 10 SUN stations
2. Computerized class room. It contains 31 PCs and projection facilities
3. Architecture computer LAB. It contains 21 PCs and a network plotter
4. Mac Design Lab. It contains 25 Mac stations
5. COE lab. It contains 75 PCs

All Labs equipped with network printers, scanners, and storage devices (CD writers, Zip Drives). As for the servers of this domain, they are as follows:

a. 2 main domain controllers and 4 backup domain controllers
b. 2 Proxy servers
c. 2 print and anti virus servers
d. 3 file serves
e. 2 application servers
f. 1 Database server
g. 1 exchange server

Software applications installed varies from office applications that are installed on all stations from which students have internet and email access. In addition to specialized application related to courses requirements such as Java, Net, C#, Oracle, J++, Forte Java, Architecture Desktop, Arcview, Robots, Idea, Mathematica, Primavera, MS Project, Adobe Photoshop and Illustrator, MathLab, SAS etc... In addition the Academic Computer Center web page provide the students a comprehensive page where are major required academic links to the library system, faculty and course assignments pages and University email system is visible.

The center operates 75 hours a week where the regular opening hours are daily from 8:00 AM till 9:00 PM and Saturday from 8:00 AM till 6:00 PM.

Sidon

In Sidon, the Academic Computer Center is equipped with seven Pentium 233 Mhz MMX computers, four Epson printers, an HP Scanjet 3C scanner. The center also provides Internet connections.

BIOLOGY AND CHEMISTRY LABS

The Biology laboratories are equipped with sophisticated instrumentation, including pulse-field gel electrophoresis equipment, an amino acid sequencer, a fluorescent microscope, an inverted microscope, all sorts of advanced incubators, different types of electrophoresis setups, water, air and soil pollution analyzers, different types of centrifuges, a hybridization oven, a vacuum gel dryer.

The Chemistry laboratories are equipped with state-of-the-art instrumentation such as FTIR, FT 300 Mhz NMR, UV-Visible spectrophotometer, fluorometers, GC, mass spectrometer, HPLC, GC-mass spectrometer and others.

THE GRADUATE BUSINESS MANAGEMENT CENTER

This Center, located in Nicol Hall, Beirut Campus, includes a graduate seminar room, classrooms and the Business Computer Center (see also p. 10).

THE CONTINUING EDUCATION PROGRAM

The Continuing Education Program (CEP) aims to provide learning opportunities for people seeking to develop their knowledge and skills without enrolling in regular programs. It responds to social changes such as the growing number of working women, technological advances, and a constant need for improvement in the workplace. Its specific aim is to provide adult learners with a program that is regularly adjusted to changes in the marketplace and to developmental needs in the community. With flexible schedules, contents and presentation, this program is an attractive and conven-
intent means for personal or professional growth.

**Noncredit Courses for Suspended Students**

LAU introduced in the Fall 1998 semester a new program to help suspended students. It consists of four noncredit courses that students may take during the span of their suspension from university. The courses, offered through the CEP, are: Stress and Time Management, Academic Survival Skills, Communication Skills, and Logic and Methods of Reasoning. They are graded on a Pass/Fail basis.

**Art Courses**

The CEP offers art courses usually taken for personal satisfaction. They encompass painting, drawing, photography, pottery, jewelry craftsmanship, home decoration and flower arrangement. Classes are given in the afternoon, three hours per week for 12 weeks, a convenient time for most working people.

**Physical Education Courses**

LAU’s indoors swimming pool answers the need of many schools where swimming is a required sport for the French Baccalaureate. Other physical education courses, such as tennis and stretching are also popular. These courses are given three hours per week for 12 weeks.

**Remedial Courses**

Remedial courses help students who do not yet meet university entrance requirements. Through these courses students can improve their skills in English, mathematics, physics, chemistry, biology and humanities. They also acquire study skills that will be of use throughout their university studies.

**Certificate Programs**

The pre-school training program is very popular among kindergarten instructors seeking to keep abreast of advances in their field. Through this year-long program instructors update their teaching methods and earn a certificate.

The secretarial skills program has had full attendance in its 1997-98 sessions. People with high-school level education take courses in business, English correspondence, behavioral skills, and computer use. The course spans one academic year and confers a certificate in secretarial skills.

**Special Arabic Courses**

Ideal for foreigners whose job demands the use of Arabic, be it classical or colloquial. Arabic classes go along tutorial instruction, giving the student the advantage of choice. This course aims at teaching proficiency in the four language skills: Speaking, reading, writing and listening.

**Business Courses**

Elementary Business Principles: An introductory business course where the student is exposed to the basic business functions: accounting, finance, management, marketing, economics.

Accounting: An introduction to the “generally accepted accounting principles,” assets, liabilities, and owner’s equity; preparation of financial statements and completion of the accounting cycle.

Marketing: Introduces the marketing environment; Marketing Mix (product, price, promotion and distribution).

Computer Usage Level I: An introduction to basic information system theory and practice. Use of computers.

Business application software: spreadsheets, database management and word processing.

Computer Usage Level II: The student should have a basic knowledge of computers. The course concentrates on system utilities, desktop publishing, spreadsheets and computer graphics.

These courses are offered three hours per week for 12 weeks. They are convenient to people who are forced to look for alternatives when it comes to finding a job in a congested market or who decide on midlife career changes. Finally, those who are ambitious may find a competitive edge through further education at the CEP.

**Off-Campus Program**

An off-campus English program was launched in Nabatieh to prepare students for the English Entrance Exam. The CEP is ready to offer similar services in other distant areas to save their residents housing and commuting expenses, hoping to encourage them to pursue higher education.

**Summer Camp**

The CEP offers a two-session (July & August) Summer Camp for children ages 6 to 12. The children join different activities that help them develop their skills in various fields: Cooking (all ages), computers (ages 10 to 12), basketball (all ages), tennis (ages 7 to 12), taekwondo (all ages), gymnastics (all ages), music (all ages), art (all ages), story telling / drama (ages 6 to 9). These activities are offered
on campus and are supplemented with educational/recreational trips.

THE NURSERY SCHOOL

A modern nursery school with a curriculum based on the latest in child development and early childhood research. The importance of these early years has been well documented. The school’s program addresses the needs of children between the ages of two-and-a-half and five, and concerns itself with the total development of the child. The medium of education is play based on the fact that a child learns more by doing than by observing and listening. The teachers are all university graduates with a ratio of one adult to ten children. The facilities include observation booths, making it possible for parents, visiting teachers and students to observe without disturbing the children.

COOPERATIVE LEARNING CENTER

While cooperative learning is widely practiced in the classroom, LAU has recently opened a special center aiming to encourage academically deficient students to work more effectively, with the assistance of their academically excelling peers.

The center, which functions at the Beirut and Byblos campuses, is administered by students under the supervision of faculty advisors.

Among other advantages, the cooperative learning method:

- gives students a chance to improve their academic performance by trying alternative methods of studying;
- promotes cooperation between students;
- gives students the opportunity to reinforce their knowledge and improve their teaching and communication skills by sharing what they have learned;
- provides students who run the Center with managerial experience and a sense of responsibility.

At the Center, students identify the courses in which they usually have difficulties and offer review sessions in these courses. The center also provides study resources such as copies of exam questions, solved problems, computer media, audio-visual materials and reference books. It also organizes workshops periodically to train the students who will be in charge of coaching others.

CAMPUSES

Beirut

The atmosphere in which university students live and work plays a vital part in their education. The hillside campus in a residential area of Ras Beirut provides the necessary climate for a well-planned academic life. Nine buildings surround the central campus green which is beautifully landscaped with Mediterranean trees and foliage.

Byblos

In the spring of 1987, LAU was given a 113,000-square-meter (1,216,361-square-foot) plot of land in Blat, overlooking Byblos city. The campus has grown to become the seat for four schools: Arts & Sciences, Business, Engineering & Architecture, and, Pharmacy.

Sidon

The Sidon campus has rented premises of two flats, with an area of 2,000 square meters (21,528 square feet) in the Makassed Building in the southern port city of Sidon. In the spring of 1994, LAU was given a 30,000-square-meter (322,927-square-foot) plot of land by Mr. Walid B. Hariri. A master plan has been drawn for a campus that will accommodate 1,500 students. The plan includes faculty and student residences, a gymnasium, an auditorium, an amphitheater, a fine arts center, a learning resources center, and other edifices. The new campus will be located three kilometers east of the current location in Sidon.
STUDENT LIFE POLICY

Since its foundation, LAU has contributed to the total development of its students. As stated in the Student Life Policy, the university “seeks to develop socially involved students, who can and will act responsibly in relation to themselves, to others, to their country and to the world community.” These aims have been pursued through the Guidance Office, Student and campus Life Council and student clubs.

GUIDANCE OFFICE SERVICES

This office provides students with the attention and assistance needed for their physical, social and academic growth by coordinating the following services:

1. New Student Orientation
   This orientation program introduces new students to the LAU campus, student services, academic programs, academic rules and procedures and acquaints them with community and university resources.

2. Academic Advising Services
   Coordination of academic advising at LAU is designed to develop mutual confidence between advisor and student. Each new student is assigned a faculty advisor whose role is not restricted to routine scheduling but encompasses a wide range of student concerns and services. This may include helping students to define alternative courses of action based on their capabilities, interests and goals and to readjust their goals whenever needed. Advisors are available for individual consultation during office hours and by appointment.

3. Counseling Services
   One of the major functions of the Guidance Office is to provide individual or group counseling for LAU students. Qualified counselors are available to work with students for personal and social adjustment problems, concerns related to the selection of majors as well as general academic, educational and career planning advice.

4. Health Services
   The health services provide preliminary health care, health education and health counseling. Every student has a medical insurance plan designed to help meet financial difficulties arising from illness or accident.

5. Extra-Curricular Activities
   Activities at LAU are organized through the Guidance Office and through clubs. There are several clubs such as the Hiking Club, Cinema Club, Music Club, Social Club, Environmental Club, Human Rights Club, Art Club, each of which has a faculty advisor. Activities are organized in the spirit of a club’s stated objectives. Students can become members of any of these clubs provided they satisfy the membership requirements. In addition, six full-time students can apply to form a new club. The application is presented to the Guidance Office, which presents it to the Student and Campus Life Council for approval.

   To cater to the diversity of LAU students, the Guidance Office organizes activities for international students to facilitate their adaptation to LAU and Lebanon through organizing gatherings, trips and group discussions. The International Student annual dinner has also become a major activity on campus.

6. Student Representation
   Each year the Guidance Office plans, organizes and oversees the student elections in cooperation with the Student and Campus Life Council. Ten students are elected to serve on the following councils and committees: financial aid, student and campus life, library, yearbook, cafeteria and campus services.

7. Career Guidance
   Several career guidance activities are planned by the Guidance Office. These activities aim at providing students with the knowledge and skills to join the career world upon graduation such as, curriculum vitae writing and preparing for job interviews. An annual job fair in which companies from the business world participate is also organized.

8. Student Honor Society
   Students with a cumulative GPA of 3.2 and above in 24 credits or more become members of the Student Honor Society. An annual ceremony is held during which certificates and pins are awarded to all members. Students with the highest GPA in each school also receive a financial award.
Admission to Undergraduate Study

Candidates for admission may apply to any of the three campuses (Beirut, Byblos or Sidon), by sending an application to the campus they choose to join.

Applicants may apply to LAU as regular or special; as Freshman, Sophomore or transfer; and for the Fall semester, the Spring semester or the Summer terms. Applications for admission are available at the Admissions Offices and will be mailed to applicants upon request. Applications can also be downloaded from the LAU website, http://www.lau.edu.lb.

Requirements for Admission

Applicants must submit the following items:
1. Application form
2. School record: The school grades of the last three years should either be on the recommendation form in the application (one recommendation per school) or an official transcript sent directly to the Admissions Offices. The grades of the last year or semester should be sent as soon as they are available.
3. Photocopy of the identity card or passport
4. Two recent passport-size color photos
5. A non refundable application fee of LL 60,000 for those residing in Lebanon or US$ 60 for those coming from outside Lebanon.
6. The official secondary school certificate

N.B.: Accepted or rejected applicants may not reclaim any of those documents.

Placement Exams

a. Applicants to the Sophomore class must sit for the Sophomore Exam. (SE)
b. Applicants for the Freshman class must sit for the Freshman Exam (FE) or SAT I and SAT II.
c. The Sophomore and Freshman exams are administered at LAU and may be repeated at an interval of three months.
d. Subjects taken in the Sophomore exams are as follows:
   • General Sciences: Math, Physics and Chemistry
   • Life Sciences: Math and two science subjects depending on their choice of major.
   • Literature and Humanities: Math, General Sciences, and Philosophy and Civilization.
   • Sociology and Economics: Math, Sociology and Economics, and Philosophy.
e. Subjects taken in the Freshman exam:
   Math, Social Sciences and two of the following subject matters: Physics, Chemistry and Biology.

Applications will be evaluated by the University Admissions Council and final acceptance will be based on each applicant’s qualifications and availability of places.

English Proficiency Requirement

Since English is the language of instruction at LAU, applicants must demonstrate proficiency in the English Language. This may be determined in one of the following ways:
1. Passing LAU's English Entrance Examination (EEE) with a minimum score of 500. This exam may be repeated at an interval of one month.
2. Achieving a minimum score of 193 (computer based) on the Test of English as a Foreign Language (TOEFL) which is equivalent to 523 (paper based).
3. Achieving a minimum score of 6.5 on the International English Language Testing System (IELTS).

Students scoring between 550 and 599 on the EEE or 233 and 263 on the TOEFL will be exempted from a three non-credit course, namely ENG009 English I. Students scoring between 600 and 649 or 267 and 300 in TOEFL will be exempted from English II (3 credits).

Transfer students coming from a recognized institution of higher education where English is the language of instruction are not required to take the EEE or the TOEFL. These students are given the option of either taking ENG009 or sitting for an English placement test if they had not taken any transferable English course in their former institution.

Transfer students coming from a recognized institution of higher education where English is not the language of instruction are required to take the EEE or the TOEFL.

N.B.: When registering for SAT I, SAT II or TOEFL, please use LAU’s code number: 2595.

Admission to the Sophomore Class

Applicants who might qualify for admission to the Sophomore class are:
1. Holders of the Lebanese Baccalaureate: there are four types of Lebanese Baccalaureate: General Science, Life Sciences, Literature and Humanities, and Sociology and Economics.

2. Holders of the Technical Baccalaureate Program: Students who have followed the Technical Baccalaureate Program must follow programs in the same area of specialization.


4. Those who have successfully completed two years of the CEGEP.

5. Applicants coming from the British System who have completed a minimum of three subjects at the Ordinary Level (O level) in addition to two subjects at the Advanced Level (A level) or four Advanced Supplementary Subjects (AS) excluding languages.

Kindly note that students who have a permission from the Equivalence Committee of the Ministry of Education to pursue their education in a foreign program are automatically exempted from the Arabic requirements.

Holders of the French Baccalaureate, International Baccalaureate or who have followed the British System, and who have studied outside Lebanon for three consecutive years will be exempted from the Arabic requirements.

Admission to the Freshman Class

All applicants to the Freshman class should hold a secondary school certificate based on 12 years of schooling. Applicants who might qualify for admission to the Freshman Class are:

1. Holders of the High School Diploma
2. Applicants coming from the British System who have completed a minimum of five subjects at the Ordinary Level (O level) in addition to one subject at the Advanced Level (A level) or two Advanced Supplementary Level subjects (AS)
3. Those who have successfully completed one year of the CEGEP

Admission of Lebanese Applicants to the Freshman Class

Lebanese Applicants to the Freshman Class must obtain prior to registration a permission from the Equivalence Committee of the Lebanese Ministry of Education, stating that the student is allowed to enroll in a foreign program.

To obtain this permission the applicant must show evidence of having studied outside Lebanon for at least two years at the intermediate and secondary level or three years at the elementary level. The applicant should also take SAT I and SAT II prior to enrollment in the freshman class.

The Equivalence Committee specifies a minimum score of 2000 for the five subjects of SAT I and SAT II combined, and, not less than 300 in individual test scores.

The subjects of SAT II required for applicants to Freshman Sciences are:

- Mathematics 2C
- Two sciences from Biology, Chemistry or Physics

The subjects of SAT II required for applicants to Freshman Arts are:

- Mathematics 1 or 1C
- English (Writing or Literature)
- One science from Biology, Chemistry or Physics

Transfer from other Universities

1. Students coming from recognized institutions of higher education and who have met LAU admission requirements prior to their admission to the institution they are transferring from, may apply to LAU.

2. Students who have completed successfully 12 credits will be accepted without any placement exams. Students who have completed less than 12 credits have to sit for a placement exam for the class they have completed at school.

3. Transfer applicants must submit official transcripts of records as well as catalogues from the previous colleges or universities they attended along with the application for admission. The University Admissions Council specifies acceptance conditions, which will appear on the letter of acceptance issued by the Admission Offices.

4. Courses with grade of "C" and above may be transferred to an LAU degree with the consent of the school concerned. Work which is not declared on the application form will not be considered for transfer.

Validity of Acceptance for Admission

Admission is only valid for one calendar year. If a student is admitted for a certain semester and for some reason does
not register then, a “Reactivation Application” form is needed. These forms are available at the Admissions Offices free of charge.

**Special Programs**

**Excelsior College Degree or External Degree:** This program is designed by LAU and the Board of Regents of the University of the State of New York for students who cannot secure an equivalence for the Baccalaureate Degree form the Lebanese Ministry of Education. They may apply to the Freshman class and upon completion of the AA/AAS they may pursue a BA/BS in Liberal Arts or a BS in General Business. Courses taken at LAU are evaluated by program officers in New York. Degrees are issued directly by the Board of Regents of the University of the State of New York.

**Certificate Programs:** LAU offers one year certificate programs in Graphic Design, Computer Science, Fine Arts, Interior Design

**Diplomas:** LAU offers a Teaching Diploma. It is obtained upon completion of 18 credits in Education over and above the requirements for the Bachelor’s Degree.

---

**ACADEMIC RULES AND PROCEDURES FOR UNDERGRADUATE PROGRAMS**

**PURPOSE:**

To define the academic rules of the Lebanese American University and to state the procedures involved in the implementation of these rules.

**PROCEDURE:**

It shall be the responsibility of the University Curriculum Council to study suggested changes to the Academic Rules and Procedures and to submit its recommendations to the University Executive Council for final approval.

It shall be the responsibility of the Admissions Offices and the University Admissions Council to see that the admission regulations are properly administered.

It shall be the responsibility of the Registrar’s Offices to implement these academic rules and procedures and observe the rules herein.

It shall be the responsibility of the Guidance Offices to give general guidance to students in conformity with their job descriptions.

It shall be the responsibility of every student to study and observe the rules herein.

---

**I. TRANSFER AND CHANGE OF MAJOR:**

A. **Transferring from one LAU Campus to Another:**

Students who intend to transfer from LAU campus to another may do so provided they declare their intention by filling out a transfer form by the specified deadlines.

B. **Transferring from the Associate to Bachelor Program or vice versa:**

Students may request to transfer from the Bachelor program to the Associate program or vice-versa. Such requests are handled by the Registrar’s office. Courses common to both programs and courses needed as electives will be counted towards graduation.

C. **Changing Major:**

1. A student may petition the School concerned for changing major at any time. The admission conditions and his/her academic performance at LAU will be taken into consideration. Acceptance in the new major is also conditional on availability of places.

2. Students wishing to change major will have the option of dropping off the grades of three courses taken at LAU
belonging to the requirements of the old major and not of the new major. These courses cannot be reinstated, repeated, or transferred from other institutions. This could be applied if students have not taken advantage of three Repeats (where only the higher grade counts in the GPA. Refer to Repeat Rule). If, however, they have taken advantage of the three Repeats, then they forfeit their right to a new “second chance.” If not, they drop off the grades of courses in the old major so that the total sum of Repeats and Drops will not exceed three. In addition, where a drop of a grade is effected because of a change of major, the grades that may be dropped are only Fs or Ds. Students who change major and choose to benefit from this rule cannot return to their old major. This rule applies for changes of major within a school or when a student transfers from one school to another.

D. Intensive English Regulations:
1. To promote students from Intensive English to regular English courses, the following criteria should be used:
   a. ENG003 students must pass the course with a final grade of C or above, or the Intensive English Comprehensive Examination with a grade of C or above, or score 500 or above on the EEE, or the equivalent in TOEFL.
   b. ENG002 students must either pass the Intensive English Comprehensive Examination with a grade of C or above, or score 500 or above on the EEE, or the equivalent in TOEFL.
2. Students in ENG002 and ENG003 may take one course for credit each semester in addition to a physical education course.

E. English Placement:
1. Entering Freshmen and Sophomores with a score between 500 and 549 on the EEE, or its equivalent in TOEFL, must take Remedial English (ENG009 – zero credit), English I (ENG101 – 3 credits), and English II (ENG102 – 3 credits) before the Sophomore-level English courses.
2. Entering Freshmen and Sophomores with a score between 550 and 599 on the EEE, or its equivalent in TOEFL, must take six credits of English (ENG101 English I and ENG102 English II) before taking the Sophomore-level English courses.
3. Entering Freshmen and Sophomores with a score between 600 and 649 on the EEE, or its equivalent in TOEFL, must take three credits of English (English II) before taking the Sophomore-level English courses.
4. Entering Freshmen and Sophomores with a score of 650 or higher on the EEE, or its equivalent in TOEFL, can take Sophomore level English courses directly.
5. Students passing ENG003 Intensive English III with an average of C or above or the Intensive English Comprehensive Examination with a grade of C or above are required to take ENG009 Remedial English, ENG101 English I, and ENG102 English II.

F. Physical Education Regulation:
Students may accumulate up to two credits of physical education besides Basic Health (PED101). Beyond this, physical education credits will not count towards graduation.

II. REGISTRATION RULES:
A. Registration:
1. Registration at the assigned dates is required of all students in accordance with posted procedures and regulations. Late registration is subject to a late registration fee. The Intensive English students, transferring students, cross-registering students, students returning after one or more semesters of absence are exempted from the late registration fee.
2. Students are not allowed to register after the Late Registration Period.
3. In order to register for a course, students must complete all the prerequisite(s) for that course.
4. No student may enroll in a course if he/she has an incomplete grade in its prerequisite.

B. Student Course load:
1. A minimum full-time load in a regular term is 12 credits. A maximum load of 18 credits is allowed or as specified by professional schools.
2. Students with a cumulative GPA of 3.00 and above are allowed to carry up to a maximum of 21 credits upon the approval of the advisor.
3. Students who have two or more incomplete grades from a previous semester are not recommended to carry more than 13 credits.
4. Students within one semester of graduation may register for a maximum of 21 credits.
5. The maximum course load per summer module is seven credits.
6. In regular semesters, the Academic School Council may approve registering more credits in special cases.

C. Registration for Pass/Not Pass Courses:
1. Students may choose to take free elective courses
(Sophomore level and above) outside the university requirements and major requirements on a P/NP basis.

2. Courses taken on a P/NP basis will not count in the GPA, but the credit hours completed will be counted towards graduation.

3. Students are not allowed to take more than one course per semester on P/NP basis.

D. Tutorial Courses:

Students may apply to the Academic School Council for a tutorial normally during their last two years before graduation provided:

1. they are in good academic standing.
2. the course is not an applied course.
3. the course is not offered on a regular basis during that particular semester.
4. the student will not exceed three courses on a tutorial basis during his/her undergraduate education.

In the event where a course is a prerequisite course to move to the next professional year, the School may, at its own discretion, offer a course on a tutorial basis.

E. Course Changes After Registration:

Changes in registration are permitted subject to the following provisions:

1. To add or drop a course or change a section, the student must process the proper form through his/her advisor. In no case may a course be added or a change of section be made or the type of registration for a course (P/NP, audit, tutorial, etc.) be changed after the end of the Drop/Add period.

2. If a student drops a course officially within the Drop/Add period, no grade is recorded for that course. Students who officially withdraw after the late registration period will receive a ‘W.’ No course may be dropped after the end of the 12th week of the Fall and Spring semesters and after the end of the 4th week of a Summer module. Students who do not withdraw officially from a course after the late registration period will receive a grade of ‘F.’

3. All schedule changes may entail fees adjustment that need to be cleared by the Business office. Changes decreasing the tuition obligation will entitle the student to a refund according to the terms in the University Refund Policy.

4. Course substitutions in the major courses may be made under special circumstances before final registration for the course upon the recommendation of the Department/Division concerned and the approval of the Academic School Council. Substitution of university requirements need the approval of the Curriculum Council.

F. Cross Registration:

1. Conditions for Cross Registration at Another Institution: Students may register concurrently at any LAU campus and another institution and receive transfer credit for work completed at the other institution provided that:
   a. The courses taken are needed for graduation and are not offered at any LAU campus before the student’s graduation.
   b. All LAU prerequisite requirements are met.

2. Procedure:
   a. Fill out the Cross Registration Form and a Regular Registration Form and have them approved by your advisor and the Division/Department Chairperson.
   b. Secure the signature of the Business Office and the Registrar’s office at LAU and take it to the Registrar at the other institution.
   c. Return the proper copy to the LAU Registrar’s Office after completing registration at the other institution and securing authorized signature in the space provided. No credit will be given for a course taken at another institution unless you follow the above procedure.

3. Cross Registering between LAU Campuses: Students may cross-register from one LAU campus to another subject to the following condition: at least 50% of the semester credits must be taken at the campus of origin of the student. This condition applies for regular semesters only (Fall and Spring). In Summer modules, students can cross-register for as many credits as they wish within the limit allowed by the student course load regulation.

4. Registering outside Lebanon: Students who, during their study at LAU, decide to take courses at a foreign institution (universities outside Lebanon) should clear their courses with the School. These courses will be treated as transfer courses.

G. Refund Policy:

Students who drop courses during or before the Drop/Add period will be refunded fully. Dropped courses after the Drop/Add period will not be refunded and ‘W’ grade will be recorded.
III. WITHDRAWAL FROM THE UNIVERSITY:

If for any reason it becomes necessary for students to withdraw from the University, they must fill out the withdrawal form and process it through their advisors. Students withdrawing from the University after the late registration period and before the withdrawal deadline (the end of the 12th week of the Fall and Spring Semesters and the end of the 4th week of the Summer modules) will receive ‘W’s for all the courses in progress.

After the lapse of at least one whole semester (Fall or Spring), students are required to reactivate their files at the Registrar’s office.

IV. CLASSIFICATION OF STUDENTS AND ACADEMIC LOAD

Students are classified as full time students when they enroll in 12 credits and above while they are considered part time students when they enroll in less than 12 credits per semester.

A. Degree Students:

Degree students are classified as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Credited Hours Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman (1st year)</td>
<td>0 – 29</td>
</tr>
<tr>
<td>Sophomore (2nd year)</td>
<td>30 – 59</td>
</tr>
<tr>
<td>Junior (3rd year)</td>
<td>60 – 89</td>
</tr>
<tr>
<td>Senior (4th year)</td>
<td>90 – 119</td>
</tr>
<tr>
<td>5th year</td>
<td>120 – 159</td>
</tr>
<tr>
<td>6th year</td>
<td>160 and above</td>
</tr>
</tbody>
</table>

B. Special Students:

Students taking courses for credit but are not working towards a degree are classified as special students.

C. Auditing Courses:

LAU and non-LAU students may audit courses; however, they should secure the consent of the instructor and the Division/Department Chairperson prior to registration. Students auditing a course will not receive credit for it, though they will be charged half the tuition fee for lecture courses and full tuition fees for practical courses.

V. ATTENDANCE REGULATIONS AND MAKE UP POLICY:

A. Attendance Regulations:

Students are held responsible for all material presented in the classroom even during their absence. Make-up work and exams, if any, will be according to the rules spelled out in the course syllabus. In any semester or term students can miss no more than the equivalent of five weeks of instructions in any course and still receive credit for that course. However, instructors have the right to impose specific attendance regulations in their courses provided that the above stated limit of absences is not exceeded and the minimum number of absences allowed is no fewer than the equivalent of two weeks of classroom instruction. Such specific attendance regulation should be mentioned in the syllabi. Instructors are to inform their Departments/Divisions and the Guidance Office of any prolonged unexplained absence. The number of absences in Summer modules is prorated.

B. Make-up Policy:

All lost sessions are to be made up. When the lost days (resulting from suspension of classes for any reason) in a regular semester number up to 10, they are to be made up as follows:

- Three days to be made up at the discretion of each faculty member.
- Seven days to be scheduled by decision of the University Executive Council in consultation with the faculty.

The ten-day period is seen as the period beyond which no make-up can be considered and credit loss becomes inevitable. Alternately, the semester may be extended and students will have to bear any additional expenses resulting from such an extension.

C. Class Time:

In case the instructor is late, students are expected to wait 15 minutes before leaving the class.

VI. CLASSROOM SCHEDULING AND CLASS SIZE:

Classrooms are assigned by the Registrar’s office. Instructors wishing to make classroom changes must first clear such changes with the Registrar’s office.

When determining class size, an addition of 10% will be used to take care of attrition according to the following procedure:

- Lecture courses: 40 students
- Language and Seminar courses: 25 students
- Studio, Lab, Internship, and Physical Education courses: 20 students
VII. TESTS AND EXAMINATIONS:

A. Regulations and Procedures:
1. Final course examinations are held at the end of each semester and summer modules. Final examinations should not count for more than 40% of the final grade. At least two tests and/or graded projects should account for the remaining percentage of the grade.

2. If a student absents himself/herself from a final examination, a grade of ‘F’ will be given for that examination. If within one week the student produces an excuse which is acceptable to the instructor and/or the Division/Department concerned, then the student will be given a make-up final examination. If an excuse is presented after the lapse of a week and within one month, the student may petition the School concerned to be allowed to sit for an examination and to have the final grade adjusted accordingly.

3. Any incomplete work must be made up at a time planned with the instructor but not later than the eighth week of the following semester (Fall or Spring) in which the student is enrolled at the University. Otherwise, the ‘I’ is changed to an ‘F’ (or ‘NP’). It is the responsibility of the student to contact the instructor to make arrangements for the completion of the incomplete work. In the case of Senior Study and Internship courses as well as final year projects, the incomplete work must be completed not later than one full year after the end of the semester or module in which the ‘I’ was received.

In no case may such work be made up after a lapse of one year from the end of the semester or module in which the ‘I’ was received.

4. In case of illness or major emergency leading to absence from an announced examination, a student must notify within a week the Guidance Office and the instructor/Division/Department concerned.

5. Final examinations will not be scheduled on dates outside the stated examination period. In case of a major emergency, a student may request an early final exam. Such a request needs the approval of the instructor of the course and the Division/Department Chairperson.

6. No more than three final exams will be scheduled per day for every student. In case a student has more than three scheduled final exams in the same day, the student may ask the instructor of the highest course number to reschedule his/her final exam.

7. When there are final examination conflicts between a LAU class and a class at another institution, the student involved must resolve the conflict with the instructors concerned in advance.

8. When there are final examination conflicts among LAU courses, students must inform the Registrar’s office by the deadline indicated on the examination schedule.

9. Students may review their final examination paper in the instructor’s office (or the Division/Department Chairperson’s office in case of the absence of the instructor concerned). Final examination papers will be retained by the instructor or the Division/Department Chairperson for one semester.

10. Some of the above rules (namely 1, 5, and 9) may not apply to design, studio, project, seminar, and research type courses. In such cases, school specific regulations may apply as specified in the course syllabus and approved by the Academic School Council.

B. Code of Conduct During Examinations:
Students are expected to follow the highest ethical code of conduct during all the examinations.

VIII. SCHOLASTIC STANDING:

A. Grading System:
The University grading system uses a series of letters to which are assigned grade quality points. The Grade Point Average (GPA) is calculated according to a procedure outlined in the following section. No pluses or minuses should be given or recorded.

Grade A: Represents work of excellent quality. It is valued at four quality points for each credit hour.

Grade B: Represents work of good quality. It is valued at three points for each credit hour.

Grade C: Represents satisfactory achievement. It is valued at two quality points for each credit.

Grade D: Represents the minimum passing grade and is indicative of poor performance. It is valued at one quality point for each credit hour.

Grade F: Represents unsatisfactory performance in the course. It has zero quality points.

Grade P: Represents passing performance in a course taken on a Pass/No Pass basis. The credits, if any, will be added to the number of credits passed but will not be included in the GPA. It has no quality points.

Grade NP: Represents failing performance in courses taken on a Pass/No Pass basis. No credits will be added to the student’s record, nor will the GPA be affected. It has no quality points.
Grade U: Represents a course taken on audit basis. It has no quality points and the credits will not be added to the passed credits.

Grade W: Represents official withdrawal from a course after the late registration period and before the end of the 12th week of the Fall and Spring semesters and the end of the fourth week of the Summer modules. It has no quality point. A withdrawal form must be properly processed.

Grade I: Represents incomplete work and is given when some essential requirements have delayed because of factors beyond the student’s control: excused absence, illness, etc. Students are not entitled to an ‘I’ grade unless they have fulfilled at least two-thirds of the course requirements with a passing average.

If a course is marked ‘I,’ all requirements must be made up at a time planned with the instructor but not later than the eighth week of the following semester (Fall or Spring) in which the student is enrolled at the University. Otherwise, the ‘I’ is changed to an ‘F’ (or ‘NP’).

In the case of Senior Study and Internship courses, the incomplete work must be completed not later than one full year after the end of the semester or module in which the ‘I’ was received.

In no case may such work be made up after a lapse of one year from the end of the semester or module in which the ‘I’ was received.

B. Grade Point Average:

The Grade Point Average is the ratio of the number of points gained to the number of credit hours attempted. As stated above, an ‘A’ counts for four points for each credit hour carried; a ‘B’ counts for three points; a ‘C’ for two points; a ‘D’ for one.

Example of semester GPA computation:

<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
<th>Cr.</th>
<th>Quality</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA201 Arabic</td>
<td>B</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>BIO101 Biology</td>
<td>A</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>ENC102 English</td>
<td>D</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>CST201 Cult. Stud.</td>
<td>F</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PED101 Bas. Health</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

The semester GPA of the five courses above would be:

Sem. GPA = \( \frac{\text{Tot. Sem. QualityPts}}{\text{Tot. Sem. Cr. Hrs Att.}} = \frac{30}{14} = 2.14 \)

Courses in which grades P, NP, U, W and I have been given are not counted in computing the GPA.

C. Repeating Courses:

1. Students are advised to repeat a course in which they received an ‘F’ or a ‘D.’ Students will receive credit once for the course. A student may have up to three repeats and have the higher grade count in the GPA. All repeated courses beyond this number will have all grades taken counted in the GPA. Students wishing to change major will have the option of dropping off the grades of three courses taken at LAU belonging to the core and/or emphasis requirements of the old major and not of the new major. This could be applied if students have not taken advantage of three Repeats. If, however, they have taken advantage of the three Repeats, then they forfeit their right to a new “second chance.” If not, they drop off the grades of courses in the old major so that the total sum of Repeats and Drops will not exceed three.

2. A ‘W’ grade in a repeated course would not be considered among the three allowed repeats.

3. If repeated, transferred courses will be deleted from the credits given on transfer basis. In that case, the courses will not appear as repeated courses.

4. If a course is repeated at another institution and transferred to the record of the student, the grade and credits of the LAU course will be included in the GPA calculations. The 3-Repeat rule does not apply in such case.

D. Grades and Progress Reports:

1. All semester grades must be turned in to the Registrar’s Office not later than 72 hours after the particular final examination is given.

2. Final grades will not be changed except in the case of an instructor’s mistake. A change of grade will not be allowed after the lapse of one semester. The corrected grade should be processed using the Change of Grade form.

3. The Registrar’s office will provide the Guidance office and the student’s advisor with copies of grade reports each semester. Academic advising and counseling are the responsibilities of the faculty advisors.

4. Progress reports on weak students are to be submitted to the Guidance office and the faculty advisor by the eighth week of the semester.
E. Requirements for Degrees:

Degrees are awarded three times a year: at the end of the Fall semester (February 28), at the end of the Spring semester (June 30), and at the end of the Summer (September 30).

Students expecting to graduate must apply for graduation at the Registrar’s office by the deadlines specified by the office.

1. Requirements for the Associate degrees:
   a. A minimum of 62 credits, the last 30 credits of which must be completed at LAU.
   b. Fulfillment of all required courses in a designated curriculum leading to the AA or AAS degree.
   c. A cumulative GPA of 2.00.
   d. A GPA of 2.00 in the major courses taken at the university, except for the Liberal Art program.

2. Requirements for the Certificate Program:
   a. A minimum of 30 credits completed in a designated program.
   b. A cumulative GPA of 2.00 in all courses attempted in the Certificate Program.

3. Requirements for the Bachelor’s degrees:
   a. In accordance with Lebanese Government regulations, Lebanese students entering Sophomore must complete 92 credits in no fewer than six semesters. A minimum of 122 credits is required of students entering as Freshmen.
   b. Lebanese students entering as Freshmen must complete at least 92 credits after obtaining the Lebanese Baccalaureate or its equivalence in no fewer than six semesters.
   c. An LAU student with a Bachelor degree may work for another Bachelor degree provided he/she completes a minimum of 30 additional credits including all requirements for the new degree. A non LAU graduate may work for another Bachelor degree provided he/she completes all requirements for the new major, a residency of at least two semesters and at least 30 credits.
   d. Students who hold a bachelor degree may earn an Associate degree in another major by completing the requirements for that major.
   e. A minimum of 36 credits in a major, plus any additional requirement set by the Division/Department are required.
   f. A cumulative GPA of 2.00 in the major courses is required.
   g. A cumulative GPA of 2.00 must be achieved in the courses required for the Teaching Diploma. The Teaching Diploma is granted upon completion of 18 credits beyond a BS or BA degree and upon the fulfillment of the Government requirements.
   h. A cumulative GPA of 2.00 is required in all courses taken at the university. Transfer students will be given credit for all transferable courses, but only the courses taken at LAU will be counted in their GPA.
   i. A minimum completion of the last 30 credits at LAU.
   j. A minimum completion of 50% of the major courses for transfer students.
   k. Students expecting to graduate are required to apply for clearance one semester prior to graduation date according to the deadlines set by the Registrar’s office.
   l. Individual Schools may require further conditions for graduation. These conditions must be approved by the University Curriculum Council and the University Executive Council.

F. Academic Recognition:

1. If students have completed at least 12 credit hours in a semester (not including summer), with a GPA in the range of 3.20 and 3.49, they are placed on the Honor List. If their GPA is in the range of 3.50 and 4.00, they are placed on the Distinguished List. The above applies provided they have no incomplete grades, nor is their cumulative GPA below 2.00.

2. Degrees are awarded with Honors, Distinction, and High Distinction with a cumulative GPA in the range of 3.20-3.49, 3.50-3.79, and 3.80-4.00.

G. Academic Probation:

Students are placed on probation when their work has dropped below satisfactory level at any time irrespective of Incomplete grades, or withdrawals.

Students taking Intensive English courses are not subject to normal probation rules. Students may not stay in Intensive English courses more than a total of two semesters and one summer, after which they leave the university. They can come back only after passing the EEE or TOEFL.

A student on probation is advised to repeat courses in which he/she received an ‘F’ or a ‘D’ as soon as possible and may not carry more than 13 credits in a semester.

A student is placed on probation under one or more of the following conditions:

1. Students will not be placed on probation until they
have attempted a cumulative of 20 credits or more.
2. If at the end of any academic term a student does not achieve a minimum cumulative GPA of 2.00 in all work done at the University, he/she will be placed on probation.
3. If after completing 12 credits in his/her major, a student’s average in the major courses is less than 2.00, he/she will be placed on Divisional/Departmental probation and will be advised to change majors.

IX. ACADEMIC SUSPENSION:

A. Students on academic probation will be suspended if they fail to remove the probation in two consecutive semesters of enrollment at LAU (summers excluded) regardless of Incompletes and semester withdrawal.
B. Students with two consecutive academic probations will not be suspended at the end of any semester in which they achieve a semester GPA of 2.20 in a minimum of 12 credits even though the cumulative GPA is below 2.00. Such students will not be allowed to register until their grades are out and all incompletes are removed.
C. Students who may petition for a one semester grace period are those who lack 12 or fewer credit hours to graduate and whose GPAs for graduation are within possible reach in that one semester of grace. Such students who are given this chance and do not complete all requirements for graduation will be suspended.
D. Students who can avoid suspension upon changing major may do so at any time.

X. READMISSION AFTER SUSPENSION:

A student suspended for academic deficiencies must petition the Admissions Council for readmission. The petition is submitted at the Registrar’s Office. The application form is submitted at the Admissions Office. The regular application fee will be charged. Readmission is not automatic. Each case will be studied on its own merit. If during the student’s absence from LAU, he/she attended another college or university, he/she has to submit a transcript of grades from that college or university.

If a student is readmitted after suspension, he/she will be placed on probation and will be given two semesters (excluding summers) to remove the probation.

Suspended LAU students may not receive credit for any academic work done during the absence period if such work has not been declared prior to enrollment or re-enrollment.

Students who dropped for academic deficiencies may petition the University Admissions Council for readmission if at least one of the following conditions is met:
A. The student has spent at least one semester at another institution of higher learning and completed 12 credits with an average of ‘C’ or above.
B. The student has spent one full calendar year outside LAU.
C. The work experience of the suspended student (in the interim period between first suspension and possible readmission) is at least one year.
D. The student takes special courses at the Continuing Education Program with a cumulative C Average.

LAU students suspended from a Professional School may be readmitted to the same major.

Suspended students who have a GPA of less than 1.2 will not be readmitted.

Students who have been suspended twice will not be readmitted. However, a double-suspension LAU student may apply for reentry after three years of academic work in another university or seven years of work experience. Each case will be studied individually.

XI. DISCIPLINARY ACTION:

A. Cheating on tests, plagiarism, and disrupting classes and examinations are serious offenses subject to disciplinary action by the Academic School Council concerned. Acts of theft, falsification of University documents or signatures or any improper behavior on the Campus is also subject to disciplinary action by the Campus and Student Life Council.
B. Students caught cheating on an exam receive a grade of zero on the exam in their first cheating attempt in the course and receive a warning. Students caught cheating for the second time in the same course receive a grade of ‘F’ in the course and a second warning. A grade of zero on an exam resulting from cheating must be counted in the student’s course grade. The zero cannot be dropped in computing the final grade in case the instructor has a policy of allow-
C. A system of disciplinary warnings and citations (one citation equals 1/2 warning) has been established. A student may receive two disciplinary warnings and is automatically suspended from the University on the third warning (or sixth citation). He or she may not apply for readmission before the passage of one year.

D. A disciplinary warning will be removed after two academic years of good behavior provided the student has been a full time student during the two year period.

E. Undergraduate students who have accumulated up to one or two warnings during their years of study may either be denied admission to graduate studies or may carry the warnings with them to graduate work, unless admission to graduate work is subsequent to full-time employment for at least two years following completion of a Bachelor program (in which case warnings may be removed upon submission of required documents).

F. Letters of warning will be sent by the Guidance office to the student, parents or guardians, advisor and the financially sponsoring foundation or agency. Copies will be kept at the Guidance office and the Registrar’s office.

G. Any student subject to disciplinary action may appeal his or her case to the body that issued the warning or citation through a petition within two weeks.

XII. APPEALS:

Due to extenuating circumstances a student may submit a petition to the proper council appealing the implementation of any of the rules and regulations contained herein. If the decision entered by the Council is adverse, and he/she believes that he/she may be subjected to a hardship because of such a decision, an appeal may be submitted by the student to the University Executive Council for a final determination on the matter.

ACADEMIC RULES AND PROCEDURES
FOR THE MASTER’S DEGREES

I. REQUIREMENTS FOR ADMISSION TO THE GRADUATE PROGRAMS

Admission to one of the Graduate programs at the Lebanese American University is granted only on a selective basis to students who have demonstrated distinct academic ability and motivation by meeting at least the minimum requirements described below. Meeting these requirements, however, is not a guarantee of admission, because of limited space and facilities.

A. Admissions Procedure

Application forms and other relevant admission information may be obtained by writing to the Admissions Office, Lebanese American University, P.O.Box 13-5053, Chouran Beirut 1102 2801, Lebanon, or P.O. Box 36, Byblos, Lebanon.

1) Each applicant must fill out two copies of the application form and return them to the Admissions Office of either the Beirut or Byblos Campus, together with a non-refundable application fee.

2) Each applicant must request that official transcripts or official academic credentials from all colleges or universities attended be sent directly to the concerned Office of Admissions. Failure to declare attendance in other institutions could cause invalidation of admission and any credits or degrees earned.

3) Application forms must be accompanied or followed by:
   a) A certified photocopy of the applicant’s identity card or passport
   b) A photocopy of all educational and professional certificates
   c) Two identical passport size photographs of the applicant
   d) Recommendation from two professors or others who are familiar with the academic record of the applicant.
   e) Recommendations from employers listed in the applicant’s form (if applicable).
4) The application form and all necessary material should reach the Admissions Office no later than the announced deadlines on the application form.

5) An interview with the Graduate Committee of the School concerned may at times be required. Applicants are requested to arrange for this interview with the School concerned.

6) Admission is valid for one calendar year from the date of acceptance. However, applicants who do not enroll during the first semester after they are admitted, must reactivate their application. They will be admitted during the second semester on availability basis.

Whether or not an applicant is accepted, all documents submitted with an application for admission become the property of LAU and cannot be returned.

B. Minimum Requirements for Admission

1. Baccalaureate Degree
   Applicants for admission must have a baccalaureate degree from an accredited college or university, with a minimum grade point average (GPA) equivalent to 2.75 (on a 4-point scale) and 2.75 in the major courses in the major to be pursued. Applicants with at least 5 years professional experience and/or high averages in the major fields of study applied to, but with a cumulative grade point average of less than 2.75, may also be considered for admission. If the Bachelor’s degree is not the field to be pursued and if the GPA is less than 2.75, the applicant may be admitted as “Special” as described below in sections 3 and 4.

2. Fluency in English
   Applicants are required to be fluent in English as demonstrated by a minimum score of 550 in the English Entrance Exam (or a minimum TOEFL score of 575) or by passing an Essay Test (only allowed once) given at LAU. Applicants who score between 500 and 549 in the English Entrance Exam (or between 525 and 574 in the TOEFL exam) can retake the English Entrance Exam or the TOEFL exam or enroll in an English course within their first year of graduate studies at LAU. Applicants who do not meet the above English requirements after the lapse of one year will be placed in the appropriate English course. Applicants from recognized universities where the language of instruction is English may have the fluency in English tests waived.

3. Special Graduate
   An applicant may be accepted as Special if the Bachelor’s degree is not in the field pursued but his/her cumulative GPA is not lower than 2.75. Such students must complete all course requirements specified by the relevant academic program with a minimum GPA of 2.75 before they are considered Bona Fide students in the Master’s Program.

4. Special Undergraduate
   If the Bachelor’s degree is not in the field pursued and the cumulative GPA is less than 2.75, but 2.5/4.0; 74/100 or 11/20, a student may be accepted as a special undergraduate. He/she will be reconsidered for admission into the Master’s Program after the completion of a number of courses specified by the division/department or school with a cumulative GPA of 3.0.

5. Probationary Admission
   Graduate Admissions Committees may feel that some applicants not meeting all of the requirements for acceptance could be issued a probationary acceptance to the Master’s program. Applicants accepted on probationary basis must complete their first four courses without repeats and receive a cumulative GPA of 3.0.

6. Non-Degree Candidates
   An applicant with an undergraduate degree who is not pursuing a degree program may apply for non-degree status provided he/she meets all the admission requirements.

C. Registration
   Registration is required of all students in accordance with posted procedures and regulations. Late registration requires payment of an additional late registration fee. Students will not be permitted to register after the late registration period.

D. Course Load
   The minimum course load for a full time student is nine credits per semester. Graduate students with full or part-time employment are advised to take a reduced load. Students on graduate assistantships should take a minimum of six credits and a maximum of 9 credits per semester, not counting credit hours for thesis, project or research topics.

II. ACADEMIC RULES AND PROCEDURES

A. Academic Standing

1. Good standing
   A graduate student is considered to be in good academic standing if he/she maintains a cumulative grade point average
of 3.00 on all course work undertaken while in the graduate program.

2. Academic Probation and Dismissal
   a) After the completion of nine credit hours, a student will be placed on probation if his/her cumulative grade point average is below 3.00. If the student completes nine additional credit hours (excluding repeat courses) and his/her grade point average remains below 3.00, he/she will be dismissed from the program.
   b) Any student who has at any time two repeats and more than two grades of C will be dismissed from the program.
   c) Any student who has more than one F will be dismissed from the program.

3. Grading System
   The grading system uses a series of letters which are assigned grade quality points as follows:
   A: indicates work of excellent quality (4 points per credit hour)
   B: indicates work of good quality (3 points per credit hour)
   C: indicates work of unsatisfactory quality (2 points per credit hour)
   D: indicates work of poor quality (1 point per credit hour)
   F: indicates work of unacceptable quality (0 points per credit hour)
   I: indicates that essential requirements have been delayed due to factors beyond the student’s control. These requirements must be met and another grade issued no later than one year after the completion of the semesters for which the "I" was recorded. Failure to make up the incomplete work within the specified grace period will result in a grade of "F".
   W: indicates official withdrawal from a course after the late registration period.

B. Advising
   Upon registration, each student will be assigned an academic advisor who will assist him/her in planning an appropriate course of study. At a later date, students choosing to undertake a research topic or thesis will be assigned a research advisor.

C. Transfer Credits
   A maximum of six graduate credits, with a grade point average of 3.00 or above, may be transferred from another institution. The student may also transfer graduate courses taken as an undergraduate at LAU over and above the total number of credits required for graduation on condition he/she has a GPA of 3.00 or above in each of these courses. Transferred credits should not have been used for another degree. A request for transfer of credits should be filed at the Registrar’s Office, during the student’s first semester of residence. The petition shall be reviewed by an adhoc committee chosen by the School or Department/Division, and the decision communicated to the Registrar’s Office.

D. Graduate Courses Taken by Undergraduates
   Undergraduate students may register courses and receive a maximum of six credits during the last two semesters of their undergraduate program, provided their cumulative GPA is 3.00 or above and provided they are not left with more than twelve undergraduate credits for graduation. Graduate courses will not be counted as part of the student’s graduate program unless they are over and above the total undergraduate credit required for graduation.

E. Cross-Registration
   A student may be granted permission to cross-register at another institution, if a course needed for the student’s graduation is not offered at the university. No more than one such course may be taken by a student during his/her graduate program.

F. Tutorials
   To meet degree requirements, a student may take no more than one course on a tutorial basis during the student’s graduate program. A student may register for a tutorial course only with the prior consent of the professor concerned and the approval of the Graduate Committee.

G. Auditing
   Graduate courses may be audited only by candidates who have satisfied all the admission requirements. Auditing will only be permitted when places are available.

H. Course or Program Changes
   Substitution of required courses may be made under special circumstances upon the recommendation of the School concerned and the approval of the Graduate Committee. Any change from one graduate degree to another requires re-admission.

I. Attendance Regulations
   Regular attendance is required of all graduate students. No credit will be given to a student who misses more than
one-third of class hours for any reason. A grade of "F" will be recorded unless the student follows the official withdrawal procedure.

J. Course Changes After Registration

Course changes after registration are permitted subject to the following provisions:

1) To add or drop a course, the student must obtain a "change of schedule" form from the Registrar’s Office, and must secure the signature of the advisor concerned, the Business Office, and the Registrar’s Office. Change of schedule may be made during the drop and add period.

2) If a student drops any course(s) during the late registration period, then no grade will be recorded. If a student withdraws officially after the late registration period but before the last day of the 12th week of the semester, a grade of "W" will be recorded. If a student cannot meet attendance or other requirements and fails to withdraw officially during the specified period, a grade of "F" will be recorded.

3) All course changes which increase the tuition obligation of the students will be noted by the Business Office, and the added fee will be collected before the change is finalized; changes decreasing the tuition obligation will be subject to the Refund Policy (section L below).

K. Repeating Courses

1) During the course of study in any of the graduate programs, a student can repeat a maximum of two graduate courses in which a grade of 'B' or less have been earned. In such a case, only in the first repeated course will the higher grade be counted in the determination of the grade point average.

2) Students will not be allowed to withdraw from a course more than once. The second withdrawal from a course will be recorded as 'F'.

L. Refund Policy

Contracts with faculty members and provisions for education and residence are made by the university in advance for the entire year. Accordingly, if a student withdraws for justifiable reasons after reserving courses, then the refund of tuition and housing fee will be according to the following percentages:

One course (up to four credits): 100%
Remaining courses:
  Before classes begin: 75%
  During drop/add and late registration: 50%
  After late registration: No Refund

M. Withdrawal from the University

Students who wish to withdraw from the university, either temporarily or permanently, must fill out the appropriate form at the Registrar’s Office, and secure the signature of the advisor, the Business Office and the Registrar’s Office. Students who withdraw from the University after the late registration period and before the withdrawal deadline (5 class days before the end of the semester), will receive "Ws" for all the courses in progress.

N. Petitions

Students may request exemptions or alterations to published rules, by submitting to the University Graduate Studies Council an official petition form (available at the Registrar’s Office), explaining the basis of the request.

O. Procedures for Oral Defense of Thesis and Project

1. Thesis defense:
   a) For oral defense of the thesis each candidate is required to give a public presentation. This will be followed by a meeting with the Thesis Committee for the final defense.
   b) The date of the public presentation will be advertised in a University publication and on campus by the concerned School or Division/Department two weeks in advance.

2. Project/Research Topic:
   Once the written report is submitted, each School or Department/Division will set its own guidelines for "project/research topic" defense.

P. Guidelines for Thesis and Project Work

1. Students select a thesis/project or research topic advisor, and in consultation with their advisors, shall select a thesis and project or research topic committee. In addition to the advisor, a thesis committee consists of two members and a project/research topic committee of one member. The advisor shall chair the Graduate Student Committee. The names of the members of the committee shall be formally communicated to the School or Division/Department concerned and the Office of Graduate Studies.

2. The thesis/project or research topic advisor must be a full-time member of LAU faculty of the program concerned.

3. Students can register for the thesis/project at any time after the first semester subject to the consent of a thesis/project advisor. All work on thesis or project/research topics must be completed in two years or less. Registration is valid for two years.
4. Graduate students must defend their theses and demonstrate their projects to their committees.

5. The grade for a thesis/project can be Pass, or Fail. The grade does not contribute to the GPA.

6. Students can petition before their defense/demonstration to the academic unit to change registration from thesis to project or course and vice versa.
   a) Students changing from project to thesis option will be required to pay only for the extra credits, provided the student remains with the same thesis advisor and follows the same topic. The change should be made at least one semester before graduation, and should carry the approval of the dean of the school concerned.
   b) Students changing from a thesis to a project will not normally be refunded for the difference in credits.
   c) Students changing from a thesis/project to a course are required to pay for the substitute course.

7. Theses should be written in an acceptable format.

III. GRADUATION REQUIREMENTS

A. Requirements

1) A completion of a minimum of 30 semester credit hours is required of all graduating students. However, the requirements of each graduate program will be decided upon by the school concerned (See Section I-D for further details).

2) A minimum cumulative GPA of 3.00 with no more than two repeats and/or two grades of C.

3) Graduate students cannot use courses with grades less than C toward graduation.

4) Graduate students must complete all requirements for graduation within six years of admission to the program.

5) Candidates who expect to graduate should apply for graduation one semester before the set date. He/she should fill out the appropriate form at the Registrar’s Office. Candidates for graduation will be officially notified of any requirements which they have not completed.

B. Exemption from Minimum Requirements

Students who have completed substantial academic work in areas in which courses are offered, may petition to be exempted from up to six semester hours of course work. Requests for exemption are considered in two categories based on these students as follows:

1) Substitution of elective courses for required courses: up to six credits of elective courses may be substituted for an equal number of credits of required courses, where course work completed at the level is considered to be equal to the course work for which substitution is requested. A petition for approval of such substitution should be submitted to the University Graduate Studies Council.

2) Transfer credits: Up to six credits completed at a recognized institution, where these courses fulfill substantially the requirements of courses offered in the Master’s Programs at LAU. Each of these courses must have been completed with a grade point average equivalent to 3.00 or higher prior to admission to the program.

IV. FINANCIAL AID

Graduate Assistantships

Graduate assistantships, available in the forms of graduate teaching and research assistantships, provide direct financial support to those outstanding students who can provide valuable and necessary services to the University, and at the same time strengthen the quality of the students’ educational experiences. Such appointments may be held only by students unconditionally admitted to a graduate program and carrying a minimum course load of six credit hours. Prospective graduate students should see the appropriate School for further information.

To renew a graduate assistantship, a student must be in a good academic standing, and must have performed assigned duties satisfactorily in the preceding semesters as determined by the respective schools. For course load of students on graduate assistantships, see Section I-D.

Graduate assistants are not entitled to the benefits granted to University faculty and staff members according to the personnel policy. Besides, the tuition waiver does not cover repeated courses.
The general university requirements are a balanced set of courses in general education for students pursuing bachelor's degrees. Some courses are for freshmen and are not required of entering sophomores. Transfer students must fulfill the course requirements on every level unless they receive credits for similar courses completed at their former institution.

FRESHMAN ARTS REQUIREMENTS:

Total Freshman Arts Credits: 34 cr
PED101 Basic Health 1
PHL101 Introduction to Philosophy 3
ENG101 English I* 3
ARA101 Arabic Essay Reading & Writing I ** 3
-------- Elective 3

Total Credits 13

PED---- Physical Education 1
ART101 Introduction to Music & Art 3
ENG102 English II * 3
ARA102 Arabic Essay Reading & Writing II ** 3
-------- Elective 3

Total Credits 17

Any two of the following science courses (8 credits) or one of the following and one math course (7 credits):

BIO101 Introduction to Biological Science 4
PHY101 Introduction to Physical Science 4
BIO201 Biology I 4
BIO202 Biology II 4
CHM101 General Chemistry 4
PHY111 Mechanics 4
PHY201 Electricity and Magnetism 4

FRESHMAN SCIENCE REQUIREMENTS:

Total Freshman Science Credits: 34 cr

CHM101 General Chemistry 4
MTH101 Calculus I 3

PED101 Basic Health 1
PHL101 Introduction to Philosophy 3
ENG101 English I* 3
ARA101 Arabic Essay Reading & Writing I ** 3

Total Credits 17

MTH102 Calculus II 3
PHY111 Mechanics 4
PED --- Physical Education 1
ART101 Introduction to Music & Art 3
ENG102 English II * 3
ARA102 Arabic Essay Reading & Writing II ** 3

Total Credits 17

UPPER LEVEL REQUIREMENTS:

STA202 Applied Statistics*** 3 cr
or
MTH111 Basic Mathematics**** 3
PED101 Basic Health 1
PED --- Physical Education 1
CSC201 Computer Literacy 1
CST201 Cultural Studies I 3
CST202 Cultural Studies II 3
CST301 Cultural Studies III 3
ENG201 Fundementals of Oral Communication 3
ENG202 Sophomore Rhetoric 3
ARA201 Appreciation of Arabic Literature** 3
Choose any three Social Science courses 9

Notes:

*Entering AA/AAS students with scores between 500 and 549 on the EEE, or its equivalent on the TOEFL, must take nine credits: ENG009 Remedial English (valued at three non-credits), ENG101 English I (worth three credits) and ENG102 English II (worth three credits).

Entering AA/AAS students with scores between 550 and 599 on the EEE, or its equivalent on the TOEFL, must take six credits: ENG101 English I (worth three credits) and ENG102 English II (worth three credits).
Entering AA/AAS students with scores of 600 and above on the EEE, or its equivalent on the TOEFL, must take six credits: ENG102 English II (worth three credits) and ENG202 Sophomore Rhetoric or ENG201 Fundamentals of Oral Communication.

** Non-Arabic speaking students must fulfill their Arabic requirements by taking courses from the following selection: SAR105 Colloquial Arabic I, SAR106 Colloquial Arabic II, SAR111 Standard Arabic I, SAR112 Standard Arabic II, SAR221 Developmental Arabic, or any courses related to the Middle East.

*** This course is not required of the following majors: Mathematics Education, Computer Science, Computer Mathematics and Business Studies.

**** This course is not required of students majoring in Business who have completed the Lebanese Baccalaureate in Science or Mathematics.

---

COURSE NUMBERS AND THEIR MEANING

The course prefix is a three-letter designator for an academic discipline, subject matter and/or sub-category of knowledge. The first digit next to the abbreviation (course prefix) represents the level of the course: 1 for freshman, 2 for sophomore, 3 for junior, 4 for senior, 5 for the fifth year in engineering and pharmacy, 6 for the sixth year in pharmacy and 8 for the graduate level. The next two digits represent the sequence number of the course. The following is a list of divisions/discipline areas available at LAU:

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC</td>
<td>Accounting</td>
</tr>
<tr>
<td>ARA</td>
<td>Arabic</td>
</tr>
<tr>
<td>ARC</td>
<td>Architecture</td>
</tr>
<tr>
<td>ART</td>
<td>Fine Arts</td>
</tr>
<tr>
<td>BCH</td>
<td>Biochemistry</td>
</tr>
<tr>
<td>BIO</td>
<td>Biology</td>
</tr>
<tr>
<td>BUS</td>
<td>General Business</td>
</tr>
<tr>
<td>CHM</td>
<td>Chemistry</td>
</tr>
<tr>
<td>CIE</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>COE</td>
<td>Computer Engineering</td>
</tr>
<tr>
<td>COM</td>
<td>Communication Arts</td>
</tr>
<tr>
<td>CSC</td>
<td>Computer Science</td>
</tr>
<tr>
<td>CST</td>
<td>Cultural Studies</td>
</tr>
<tr>
<td>DES</td>
<td>Interior Design</td>
</tr>
<tr>
<td>ECO</td>
<td>Economics</td>
</tr>
<tr>
<td>EDU</td>
<td>Education</td>
</tr>
<tr>
<td>ELE</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>ENG</td>
<td>English</td>
</tr>
<tr>
<td>ENV</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>FEB</td>
<td>Family and Entrepreneurial Business</td>
</tr>
<tr>
<td>FIN</td>
<td>Finance</td>
</tr>
<tr>
<td>GNE</td>
<td>General Engineering</td>
</tr>
<tr>
<td>GRA</td>
<td>Graphic Design</td>
</tr>
<tr>
<td>HOM</td>
<td>Hospitality Management</td>
</tr>
<tr>
<td>HST</td>
<td>History</td>
</tr>
<tr>
<td>IBS</td>
<td>International Business</td>
</tr>
<tr>
<td>INA</td>
<td>International Affairs</td>
</tr>
<tr>
<td>INE</td>
<td>Industrial Engineering</td>
</tr>
<tr>
<td>INF</td>
<td>Information Science</td>
</tr>
<tr>
<td>MEE</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>MGT</td>
<td>Management</td>
</tr>
<tr>
<td>MKT</td>
<td>Marketing</td>
</tr>
<tr>
<td>MTH</td>
<td>Mathematics</td>
</tr>
<tr>
<td>MUS</td>
<td>Music</td>
</tr>
<tr>
<td>NUT</td>
<td>Nutrition</td>
</tr>
<tr>
<td>OFM</td>
<td>Office Management</td>
</tr>
<tr>
<td>PED</td>
<td>Physical Education</td>
</tr>
<tr>
<td>PHA</td>
<td>Pharmacy</td>
</tr>
<tr>
<td>PHL</td>
<td>Philosophy</td>
</tr>
<tr>
<td>PHO</td>
<td>Photography</td>
</tr>
<tr>
<td>PHY</td>
<td>Physics</td>
</tr>
<tr>
<td>PJE</td>
<td>Peace and Justice Education</td>
</tr>
<tr>
<td>POL</td>
<td>Political Science</td>
</tr>
<tr>
<td>PSY</td>
<td>Psychology</td>
</tr>
<tr>
<td>REL</td>
<td>Religion</td>
</tr>
<tr>
<td>SAR</td>
<td>Special Arabic</td>
</tr>
<tr>
<td>SOC</td>
<td>Sociology</td>
</tr>
<tr>
<td>STA</td>
<td>Statistics</td>
</tr>
<tr>
<td>STA</td>
<td>Statistics</td>
</tr>
<tr>
<td>WOS</td>
<td>Women's Studies</td>
</tr>
</tbody>
</table>
The School of
Arts and Sciences
Teaching Faculty at the School of Arts and Sciences

**Deans:** Akl, N., Ph.D.; Byblos
       Harb, H., Ph.D.; Beirut

**Chairs:** Aghacy, S., Ph.D.; Beirut
       Bacha, N., Ph.D.; Byblos
       Baroudy, S., Ph.D.; Beirut
       Kabbani, A., Ph.D.; Beirut
       Maalouf, R., Ph.D.; Beirut
       Mubarak, W., Ph.D.; Byblos

**Faculty:** Abboud, M., Ph.D.; Abdallah, F., MLS; Abdo, H., Ph.D.; Abou Arbid, S., B.Arch.; Abou Teen, S., MA; Abu Absi, Z., MFA; Acra, U., MA; Aercke, K., Ph.D.; Aghacy, S., Ph.D.; Akl, N., Ph.D.; Bacha, N., Ph.D.; Bahous, R., Ed.D.; Baroudy, G., Ph.D.; Baroudy, S., Ph.D.; Bazzi, T., Ph.D.; Bitar, W., MFA; Bogharian, K., Ph.D.; Bohsali, R., DES; Bualwan, H., Ph.D.; Chamoun, C., MFA; Choueiri, H., MA; Cozyris, G., Ph.D.; Dabagli, L., BA; Daher, C., Ph.D.; Darwish, O., MA; Fallaha, N., MFA; Fawaz, A., Ph.D.; Fouladkar, A., MA; Habre, P., MA; Gabrieliyan, S., MFA; Garabedian, S., MBA; Ghosn, I., MA; Habre, S., Ph.D.; Hage Mufti, N., MA; Haidar, N., Ph.D.; Hajjar, J., Ph.D.; Hamdan, M., Ph.D.; Hammoud, H., Ph.D.; Haraty, N., MA; Haraty, R., Ph.D.; Harb, H., Ph.D.; Harmanani, H., Ph.D.; Harmouche, L., Ph.D.; Hashwa, F., Ph.D.; Houri, A., Houssari, I., MA; Jabbour, M., MFA; Kabbani, A., Ph.D.; Kalaidjian, A., MA; Khachan, V., MA; Khalifeh, J.T., MS; Khalifeh, J.F., License-Music; Khoury, T., Ph.D.; Knio, M., Ph.D.; Korfali, S., Ph.D.; Lahoud, B., MA; Dip.Eng’g; Lutfi, H., MA; Maalouf, M., MA; Maalouf, R., Ph.D.; Maalouf, R., MA; Malek, H., Ph.D.; Mansour, C., JD; Mansour, N., Ph.D.; Marroum, M., Ph.D.; Mawlawi, Z., EdD; Mohsen, R., Ph.D.; Musallem, A., Ph.D.; Musallem, M., MA; Naaman, A., MA; Nabhani, M., MA; Naous, G., MS; Nasrallah, T., MA; Nawas, T., Ph.D.; Nimah, L., Ph.D.; Obeid, S., MS; Oueini, A., Ph.D.; Osta, I., Ph.D.; Papazian, V., MS; Pempejian, G., BA; Perry, M., Ph.D.; Riifka, F., Ph.D.; Saheb, A., MS; Salman, N., BA; Samia, E., MA; Seigneuri, K., Ph.D.; Semaan, M., Ph.D.; Taan, Y., MS; Takchi, J., Ph.D.; Traboulsi, F., Ph.D.; Vasilenko, L., MA; Yazigi, K., Ph.D.; Zeitouni, L., Ph.D.
The School of Arts & Sciences is home to LAU’s oldest programs, which are the core of the university’s liberal arts tradition.

As the School diversified its curricula, its body of full-time faculty members and students grew. Now it offers numerous programs ranging from Fine Arts to Computer Science, and degrees ranging from Associate’s to Master’s.

Graduates from the School of Arts and Sciences are sought by employers in the corporate world, advertising agencies, the mass media, educational institutions of all levels, interior design houses, the public administration sector, science-related organizations and high-tech operations, to name a few.
ASSOCIATE DEGREE PROGRAMS

AA IN COMMUNICATION MEDIA

The AAS in Communication Media program introduces students to the theory and practice of mass media and drama. The courses consider the growing importance of communication media and their applications in the news industry, public relations, business as well as the arts and professions. Aiming higher for a BA, students may choose to focus on journalism, radio/TV/film or the theater.

1. CORE REQUIREMENTS 18 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHO211</td>
<td>Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART101</td>
<td>Introduction to Music &amp; Art</td>
<td>3</td>
</tr>
<tr>
<td>ART201</td>
<td>Fundamentals of Design I</td>
<td>3</td>
</tr>
<tr>
<td>COM222</td>
<td>Introduction to Radio/TV/Film</td>
<td>3</td>
</tr>
<tr>
<td>COM211</td>
<td>Introduction to Mass Communication</td>
<td>3</td>
</tr>
<tr>
<td>COM242</td>
<td>Introduction to the Art of Theater</td>
<td>3</td>
</tr>
</tbody>
</table>

2. EMPHASIS REQUIREMENTS:

Journalism 15 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM212</td>
<td>Media and Society</td>
<td>3</td>
</tr>
<tr>
<td>COM213</td>
<td>Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>COM214</td>
<td>News Writing &amp; Reporting</td>
<td>3</td>
</tr>
<tr>
<td>COM215</td>
<td>Photojournalism</td>
<td>3</td>
</tr>
<tr>
<td>COM325</td>
<td>Feature &amp; Magazine Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Radio/TV/Film 15 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM215</td>
<td>Photojournalism</td>
<td>3</td>
</tr>
<tr>
<td>COM235</td>
<td>Television Production I</td>
<td>3</td>
</tr>
<tr>
<td>COM236</td>
<td>Radio Production I</td>
<td>3</td>
</tr>
<tr>
<td>COM225</td>
<td>The Art of Film</td>
<td>3</td>
</tr>
<tr>
<td>COM326</td>
<td>Script Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Theater 15 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM241</td>
<td>Introduction to Acting</td>
<td>3</td>
</tr>
<tr>
<td>COM244</td>
<td>Introduction to Technical Stagecraft</td>
<td>3</td>
</tr>
<tr>
<td>COM338</td>
<td>Oral Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>COM345</td>
<td>Modern Drama</td>
<td>3</td>
</tr>
<tr>
<td>COM337</td>
<td>Creative Dramatics</td>
<td>3</td>
</tr>
</tbody>
</table>

AA IN LIBERAL ARTS

This program is for students who wish to continue for a BA or BS degree by providing a basic mix of subjects at the Freshman and Sophomore levels. The program also allows students to explore their interests and abilities before selecting a major course of study in the Liberal Arts. Students must complete 64 or 65 credits in this program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA101</td>
<td>Arabic Essay Reading &amp; Writing I</td>
<td>3</td>
</tr>
<tr>
<td>ARA102</td>
<td>Arabic Essay Reading &amp; Writing II</td>
<td>3</td>
</tr>
<tr>
<td>ARA201</td>
<td>Appreciation of Arabic Literature</td>
<td>3</td>
</tr>
<tr>
<td>ART101</td>
<td>Intro. to Music and Art</td>
<td>3</td>
</tr>
<tr>
<td>CST201</td>
<td>Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>CST202</td>
<td>Cultural Studies II</td>
<td>3</td>
</tr>
<tr>
<td>ENG101</td>
<td>English II</td>
<td>3</td>
</tr>
<tr>
<td>ENG102</td>
<td>English III</td>
<td>3</td>
</tr>
<tr>
<td>ENG201</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENG202</td>
<td>Sophomore Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>STA201</td>
<td>Applied Statistics</td>
<td>3</td>
</tr>
<tr>
<td>MTH111</td>
<td>Basic Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>PED------</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>PED101</td>
<td>Basic Health</td>
<td>1</td>
</tr>
<tr>
<td>PHL101</td>
<td>Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>INF201</td>
<td>Learning Resources Techniques</td>
<td>1</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Choose:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Any two science courses</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• One lab science and one math course</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Choose three of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HUD202</td>
<td>Psychology of the Young Child</td>
<td>3</td>
</tr>
<tr>
<td>POL201</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>PSY201</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC201</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>ECO201</td>
<td>Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECO202</td>
<td>Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>64 or 65</td>
<td></td>
</tr>
</tbody>
</table>

Programs
AAS IN COMPUTER SCIENCE

This program is intended to prepare students for careers in the data processing field. The curriculum includes the concepts and principles of data processing; analyzing and writing programs for business, financial and other applications, and, practical experience on the computer. Students are also required to take courses in business management, accounting and economics for a total of 70 credits (28 credits for the general university requirements and 42 credits for the major).

MAJOR REQUIREMENTS 42 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC201</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACC202</td>
<td>Principles of Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>BUS201</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>CSC215</td>
<td>Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CSC216</td>
<td>Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>CSC231</td>
<td>Linear Programming</td>
<td>3</td>
</tr>
<tr>
<td>CSC315</td>
<td>File Processing</td>
<td>3</td>
</tr>
<tr>
<td>CSC316</td>
<td>Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ECO201</td>
<td>Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECO202</td>
<td>Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MGT201</td>
<td>Introduction to Management</td>
<td>3</td>
</tr>
<tr>
<td>MTH111</td>
<td>Basic Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MTH202</td>
<td>Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>STA202</td>
<td>Applied Statistics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AAS IN GENERAL SCIENCE

This program targets students planning to continue their education in such fields as biology, chemistry, physics, medicine and pharmacy. It also serves the needs of those planning to work as technicians in chemical and allied industries. Students must complete 69 credits (30 credits for the major and 39 credits for the general university and other requirements).

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM101</td>
<td>General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>MTH101</td>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MTH102</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>PHY111</td>
<td>Mechanics</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Plus any two of the following science sequences:

Sequence 1 8 cr

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO201</td>
<td>Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO202</td>
<td>Biology II</td>
<td>4</td>
</tr>
</tbody>
</table>

Sequence 2

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM201</td>
<td>Chemical Principles I</td>
<td>3</td>
</tr>
<tr>
<td>CHM202</td>
<td>Analytical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM203</td>
<td>Qualitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CHM204</td>
<td>Quantitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Credits</td>
<td>30</td>
</tr>
</tbody>
</table>

Sequence 3

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY201</td>
<td>Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHY321</td>
<td>Introduction to Modern Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

AAS IN GRAPHIC DESIGN

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART201</td>
<td>Fundamentals of Design I (2-D)</td>
<td>3</td>
</tr>
<tr>
<td>ART202</td>
<td>Fundamentals of Design II (3-D)</td>
<td>3</td>
</tr>
<tr>
<td>ART221</td>
<td>Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART222</td>
<td>Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>GRA201</td>
<td>Rendering and Studio Skills</td>
<td>3</td>
</tr>
<tr>
<td>GRA202</td>
<td>Introduction to Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>GRA212</td>
<td>Introduction to Typography</td>
<td>3</td>
</tr>
<tr>
<td>GRA301</td>
<td>Intermediate Computer Graphics</td>
<td>3</td>
</tr>
<tr>
<td>GRA351</td>
<td>Graphic Design I</td>
<td>3</td>
</tr>
<tr>
<td>GRA312</td>
<td>Printing Variables</td>
<td>3</td>
</tr>
<tr>
<td>GRA342</td>
<td>Art of Illustration</td>
<td>3</td>
</tr>
<tr>
<td>GRA352</td>
<td>Graphic Design II</td>
<td>3</td>
</tr>
<tr>
<td>GRA490</td>
<td>Graphic Design Internship</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Photography Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 30
COMmUNICATION ARTS

The explosion of mass communications systems and fast-paced technological advances serve as a backdrop for LAU’s Communication Arts program. The university is a trailblazer in the teaching of mass communication and drama. Its curriculum and facilities are geared to staying abreast of developments in those fields.

The program strikes a balance between carefully crafted theoretical and practical courses in the three emphasis areas: journalism, radio/TV/film and theater. It offers the proper blending of intellectual, cultural and technical components needed to create well-rounded dramatists, reporters, broadcasters and movie makers.

Students learn to write, edit, lay out and design publications in computer-equipped journalism newsrooms. Radio and TV studios provide cutting-edge computer animation capabilities, and, three first-class theaters offer various dramatic experiences. Seniors are required to undergo internships in their respective emphasis areas before graduating.

Students majoring in Communication Arts must complete, besides the general university requirements, 42 credits of major courses, which are split into core and emphasis requirements as follows:

CORE REQUIREMENTS 21 cr

- COM211 Introduction to Mass Communication 3
- COM212 Media and Society 3
- COM216 Media Law and Ethics 3
- COM222 Introduction to Radio/TV/Film 3
- COM225 The Art of Film 3
- COM242 Introduction to the Art of Theater 3
- COM499 Internship/Senior Study 3

EMPHASIS REQUIREMENTS 21 cr

Journalism
- COM213 Public Relations 3
- COM214 News Writing and Reporting 3
- COM217 International Communication 3
- COM219 Media in the Middle East and Lebanon 3
- COM325 Feature and Magazine Writing 3
- COM327 Journalism Workshop 3
- COM431 Advanced Reporting, Editing & Production 3

Radio/TV/Film
- COM227 Film Making 3
- COM229 History and Theory of Film 3
- COM235 Television Production I 3
- COM236 Radio Production I 3
- COM326 Script Writing 3
- COM335 Television Production II 3
- COM342 Play Production I 3

Theater
- COM241 Introduction to Acting 3
- COM244 Introduction to Technical Stagecraft 3
- COM247 Theater in Performance 3
- COM326 Script Writing 3
- COM342 Play Production I 3
- COM345 Modern Drama 3
- COM442 Play Production II 3

EDUCATION

- Early Childhood Education
- Elementary Education
- Math Education (see page 46)
- Science Education (see page 46)

The Early Childhood Education program prepares students to:
- Plan and administer all aspects of early childhood programs
- Teach young students through art, music, creative dramatics and other techniques basic motor and cognitive skills
- Use carefully planned teaching strategies based on children’s developmental stages.

The Elementary Education program prepares students to:
- Teach children reading, language arts, mathematics, science, social studies, art, drama, music and physical education
- Employ teaching strategies, which stimulate children’s thinking and challenge them to learn
- Use the latest instructional tools and techniques to make your teaching more effective.

All programs of study include three areas:
- Core requirements which include general education courses
- Emphasis requirements which include courses in the content area — English, Arabic, social studies, math and science, drama, etc. — and Methods courses —
teaching of social studies, art education, etc.

• Practicum and methodology

REQUIREMENTS FOR A BA IN EDUCATION

General University Requirements: 34 cr (see page 31).

A. Core courses for all Education majors 24 cr
EDU201 Fundamentals of Education 3
EDU301 School Counseling 3
EDU321 Children’s Literature 3
EDU331 Educational Technology 3
EDU332 Educational Measurement 3
EDU319 Teaching Reading 3
PSY422 Psychology of Learning 3
EDU499 Senior Study 3

B. Methods Courses 6 cr
COM337 Creative Dramatics 3
EDU414 Methods and Material in ECE* 3
ART333 Art Education 3
MUS301 Music 3
EDU312 TEFL 3
EDU314 Teaching of Social Studies 3
EDU313 Teaching of Science & Math 3

C. Practicum 9 cr
EDU202 Observation and Curriculum 3
EDU419 Internship 3
And one Practice Teaching course:
EDU420 Practice Teaching, Early Childhood Education 3
EDU421 Practice Teaching, Elementary Childhood Education 3
EDU422 Practice Teaching, Elementary Math & Science 3

D. Subject Matter Area Electives 12 cr
For Early Childhood Education:
EDU205 Safety and Health 3
EDU213 Introduction to Language 3
Other subject matter area courses 6

For Elementary Education:
Choose 12 credits from one or two subject matter areas.

E. Free Electives 7 cr

* Required for ECE.

ENGLISH

The English major prepares students for a career in fields that demand clear writing and expression in fluent English, the presentation of logical arguments, and the critical evaluation of the opinions of others. Besides education, these fields include business, pre-law, communication, journalism, advertising, technical and creative writing, and translation. Students with diverse interests are welcome.

The English major offers a balanced core curriculum and two emphases: Literature and Language. The core curriculum consists of 12 literature, language, and education courses (36 credits). Of these 12 courses, six (18 credits) are designated. The student chooses the remaining six in any combination from the offerings in Literature and Education, according to his/her interest.

The Literature emphasis attracts students who enjoy reading, sharing their insights, and writing about their views. They learn about themselves and others, become more sophisticated readers, and develop skills for both employment and personal enrichment. Students learn to read closely and thoughtfully; grasp the artistic, affective, and social power of literature; and deepen their understanding of themselves and the world. The curriculum addresses the fundamental issues, questions, and problems of the discipline; it does not privilege literary history per se.

Most students pursuing the Language emphasis prepare to teach English in intermediate and secondary schools. Core and emphasis requirements are intended to offer experience with classic and contemporary English literature, grammar, language history and theory, reading, writing, and translation. Because intermediate and secondary English teachers work with their students in all areas of English, it is important for future teachers to be exposed to as many facts of the discipline as possible.

Regardless of their chosen emphasis, English majors can obtain a Teaching Diploma by taking six designated Education courses (18 credits), including EDU418 Practice Teaching. If the student chooses any from these six Education courses in order to satisfy part of the core curriculum requirement, he/
she must take the equivalent number of courses/credits in any field to be awarded the Teaching Diploma.

Non-majors can obtain an English Literature minor by taking any six Literature courses (18 credits). The minor is mentioned separately on the B.A. diploma.

General University Requirements: 34 cr. (see page 31).

**MAJOR CORE REQUIREMENTS** 36 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU201 Fundamentals of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU312 Teaching of English as a Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>ENG211 Survey of English Literature I</td>
<td>3</td>
</tr>
<tr>
<td>ENG212 Survey of English Literature II</td>
<td>3</td>
</tr>
<tr>
<td>ENG213 Introduction to Language</td>
<td>3</td>
</tr>
<tr>
<td>ENG311 Literature and Society</td>
<td>3</td>
</tr>
<tr>
<td>And choose any six Literature, Language and/or Education courses</td>
<td>18</td>
</tr>
</tbody>
</table>

**LITERATURE EMPHASIS** 18 cr

Choose five additional Literature courses                           15
ENG499 Senior Study                                                 3

**LANGUAGE EMPHASIS** 18 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG214 Modern English Grammar</td>
<td>3</td>
</tr>
<tr>
<td>ENG319 History of the English Language</td>
<td>3</td>
</tr>
<tr>
<td>EDU319 Teaching Reading</td>
<td>3</td>
</tr>
<tr>
<td>ENG321 Creative Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENG322 Principles of Translation</td>
<td>3</td>
</tr>
<tr>
<td>ENG499 Senior Study</td>
<td>3</td>
</tr>
</tbody>
</table>

**ELECTIVES** 4 cr

**Note 1:** The additional Literature courses on offer are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG312 Poetry</td>
<td>3</td>
</tr>
<tr>
<td>ENG313 Forms &amp; Modes</td>
<td>3</td>
</tr>
<tr>
<td>ENG314 Shakespeare</td>
<td>3</td>
</tr>
<tr>
<td>ENG315 The 20th-Century English &amp; American Novel</td>
<td>3</td>
</tr>
<tr>
<td>ENG316 Periods in English Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENG317 The Novel before the 20th Century (other than Shakespeare)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note 2:** ENG313 Forms & Modes and ENG316 Periods in English Literature are repeatable for credit if the course content is different. Different course content is indicated by the letter following the course number: e.g. ENG313a, ENG313b, etc. Other Literature courses are not repeatable for credit.

**Note 3:** Students with little or no knowledge of Arabic may substitute a Literature course for ENG322 Principles of Translation.

**FINE ARTS**

The Fine Arts program is designed to help students attain full development as visionaries in both a general arts context and within the framework of art’s history and philosophy. Students are encouraged to create a personal style and critical approach to the solution of individual problems by exploring two- and three-dimensional media and forms. An annual art exhibit is an integral part of the program. By choosing suitable electives, students may prepare themselves for graduate studies or careers in art production, scholarly research, art education, art reporting, graphic and industrial design, book illustration, theater or the management of art enterprises. Students need 45 credits to graduate (37 credits for the major and 9 credits for other requirements).

**MAJOR REQUIREMENTS** 37 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART201 Fundamentals of Design I (2-D)</td>
<td>3</td>
</tr>
<tr>
<td>ART202 Fundamentals of Design II (3-D)</td>
<td>3</td>
</tr>
<tr>
<td>ART221 Drawing I (Fundamental Techniques)</td>
<td>3</td>
</tr>
<tr>
<td>ART222 Drawing II (Human Figure)</td>
<td>3</td>
</tr>
<tr>
<td>ART223 Perspective Drawing</td>
<td>1</td>
</tr>
<tr>
<td>ART334 Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ART341 Painting I</td>
<td>3</td>
</tr>
<tr>
<td>ART342 Painting II</td>
<td>3</td>
</tr>
<tr>
<td>ART351 Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART352 Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>ART441 Painting III</td>
<td>3</td>
</tr>
<tr>
<td>ART442 Painting IV</td>
<td>3</td>
</tr>
<tr>
<td>ART499 Senior Study</td>
<td>3</td>
</tr>
</tbody>
</table>

**OTHER REQUIREMENTS** 9 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART331 History of Art I</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>DES221 History of Architecture &amp; Furniture</td>
<td>3</td>
</tr>
<tr>
<td>ART332 History of Art II</td>
<td>3</td>
</tr>
<tr>
<td>ART335 Islamic Art of the Middle East</td>
<td>3</td>
</tr>
</tbody>
</table>
INTERNATIONAL AFFAIRS

The BA in International Affairs program includes three emphases: Developmental Studies, Diplomatic and Consular Services and International Economics. The courses are laid out on three levels. Students majoring in International Affairs are exempted from LAU’s social sciences requirements.

Academically, the International Affairs program exposes students to the dynamic of international life, its problems and concerns, and broadens the scope of their intellectual curiosity. Vocationally, it prepares qualified Middle Eastern men and women for their countries’ foreign services, as well as important posts of an international nature. Methodologically, the program exposes students to the theory and practice of international affairs.

Students need 57 or 60 credits to graduate (39 credits for the core, 12 or 15 credits for the emphasis and 6 credits for other requirements).

CORE REQUIREMENTS 39 cr

POL201 Introduction to Political Science 3
POL202 Lebanese Politics and Administration 3
POL221 Comparative Governments of Major Powers 3
POL332 Public International Law 3
POL331 International Organization 3
POL431 International Regional Organizations & Agencies 3
POL421 The Middle East in International Affairs 3
POL311 Methodology & Political Analysis 3
ECO201 Microeconomics 3
ECO202 Macroeconomics 3
MGT201 Introduction to Management 3
POL499 Senior Study 3

And one of the following:

POL432 Diplomatic and Consular Service 3
POL433 The UN System & Problems of Development 3
ECO401 International Economics 3

Choose Two Emphases 12 cr

Developmental Studies
POL312 Politics of Developing Areas 3
ECO311 Economic Development 3

Diplomatic and Consular Services
POL313 Concepts of International Relations 3
POL322 Foreign Policy of the Major Powers 3

International Economics
ECO321 Monetary Theory and Policy 3
ECO322 Public Finance and Fiscal Policy 3
--------- Any Mathematics course 3

OTHER REQUIREMENTS

HST311 European History Since 1914 3
HST312 Europe and the Middle East in the 19th and 20th Centuries 3

POLITICAL SCIENCE

Political science graduates can work in government, journalism, public relations or research. Students majoring in Political Science should take general university requirements, all courses in the major, and the two courses listed under other requirements. They need 51 credits for the major (42 credits for the major and 9 credits for the other requirements).

MAJOR REQUIREMENTS 42 cr

POL201 Introduction to Political Science 3
POL221 Comparative Governments of Major Powers 3
POL312 Politics of Developing Areas 3
POL321 American Government & Politics 3
POL313 Concepts of International Relations 3
POL322 Foreign Policy of Major Powers 3
POL331 International Organization 3
POL323 Middle East Governments and Politics 3
POL421 The Middle East in International Affairs 3
POL211 History of Political Thought I 3
POL212 History of Political Thought II 3
POL311 Methodology & Political Analysis 3
POL332 Public International Law 3
POL499 Senior Study 3

OTHER REQUIREMENTS 9 cr

POL202 Lebanese Politics and Administration 3
ECO202 Macroeconomics 3
HST311 European History Since 1914 3

PSYCHOLOGY

This major will offer students a solid background in psychological theories enabling them to pursue graduate studies and continue to supply the education majors with the psychology courses they need. Graduates of this major will be able to work in teaching or counseling and guidance in schools.

Students must complete 39 credits in the core, 25 credits in general university requirements and 28 credits in free electives.
PSY201 Introduction to Psychology 3
PSY202 Child Psychology 3
PSY203 Psychology of Youth 3
PSY204 Social Psychology 3
PSY301 Physiological Psychology 3
PSY311 The Exceptional Child 3
PSY322 Cognitive Psychology 3
PSY325 Abnormal Psychology 3
PSY335 Consumer’s Psychology 3
PSY421 Theories of Personality 3
PSY422 Psychology of Learning 3
PSY498 Topics in Psychology 3
PSY499 Psychology Senior Study 3
Free electives 28

SOCIAL WORK

Students majoring in Social Work must complete 39 credits. The program aims at acquainting students with principles in the social sciences and humanities as well as basic skills in interpersonal and intergroup communication.

Students are helped understand and critically analyze current and past social policies, with a focus on their social and economic dynamics. The program prepares students for graduate study or for careers in social work, based on local and regional market demand.

Required Social Work courses
PSY201 Introduction to Psychology 3
PSY204 Social Psychology 3
PSY311 The Exceptional Child 3
SOC201 Introduction to Sociology 3
SOC210 Introduction to Social Work 3
SOC311 Social Problems 3
SOC313 Family and Child Welfare 3
SOC321 Sociology of the Arab World 3
SOC402 Social Work Intervention I 3
SOC403 Social Work Intervention II 3
SOC404 Social Work Practicum I 3
SOC405 Social Work Practicum II 3
SOC499 Social Work Senior Study 3

Special electives in Psychology and Sociology
PSY202 Child Psychology 3
POL201 Introduction to Political Science 3
POL231 Introduction to Human Rights 3

THE TEACHING OF ARABIC AS A FOREIGN LANGUAGE (TAFL)

Students in this program need 45 credits of major courses plus 18 credits for the Teaching Diploma to graduate.

MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY203</td>
<td>3</td>
</tr>
<tr>
<td>PSY422</td>
<td>3</td>
</tr>
<tr>
<td>EDU202</td>
<td>3</td>
</tr>
<tr>
<td>EDU319</td>
<td>3</td>
</tr>
<tr>
<td>EDU321</td>
<td>3</td>
</tr>
<tr>
<td>EDU419</td>
<td>3</td>
</tr>
<tr>
<td>COM337</td>
<td>3</td>
</tr>
<tr>
<td>EDU499</td>
<td>3</td>
</tr>
<tr>
<td>ARA --</td>
<td>15</td>
</tr>
</tbody>
</table>

REQUIREMENTS FOR A TEACHING DIPLOMA

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU201   Fundamental of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU301   School Counseling</td>
<td>3</td>
</tr>
<tr>
<td>EDU311   The Teaching of Arabic as a Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>EDU331   Educational Technology</td>
<td>3</td>
</tr>
<tr>
<td>EDU332   Educational Measurement</td>
<td>3</td>
</tr>
<tr>
<td>EDU417   Practice Teaching-Elementary</td>
<td>3</td>
</tr>
<tr>
<td>EDU418   Practice Teaching-Intermediate and Secondary</td>
<td>3</td>
</tr>
</tbody>
</table>

TEACHING DIPLOMA

The program provides two options:
- Teaching Diploma at the Elementary Level
- Teaching Diploma at the Intermediate & Secondary Levels

The Teaching Diploma consists of 18 credits to be taken over and above a Bachelor’s degree requirements. These 18 credits may be taken in combination with the Bachelor’s major courses or as a post BA/BS program in one academic year.
### Required Courses for Elementary-Level TD

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU201</td>
<td>Fundamentals of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU301</td>
<td>School Counseling</td>
<td>3</td>
</tr>
<tr>
<td>EDU331</td>
<td>Educational Technology</td>
<td>3</td>
</tr>
<tr>
<td>EDU332</td>
<td>Educational Measurement</td>
<td>3</td>
</tr>
</tbody>
</table>

**Practice Teaching—Elementary:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU420</td>
<td>Practice Teaching, Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU421</td>
<td>Practice Teaching, Elementary Education: Arts &amp; Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>EDU422</td>
<td>Practice Teaching, Elementary Math &amp; Science</td>
<td>3</td>
</tr>
</tbody>
</table>

One Methods course from the following (as recommended by advisor):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU312</td>
<td>TEFL</td>
<td>3</td>
</tr>
<tr>
<td>EDU313</td>
<td>The Teaching of Science &amp; Math</td>
<td>3</td>
</tr>
<tr>
<td>EDU314</td>
<td>The Teaching of Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>EDU414</td>
<td>Methods and Materials in ECE *</td>
<td>3</td>
</tr>
<tr>
<td>ART333</td>
<td>Art Education</td>
<td>3</td>
</tr>
<tr>
<td>MUS301</td>
<td>Music Education</td>
<td>3</td>
</tr>
<tr>
<td>COM337</td>
<td>Creative Dramatics</td>
<td>3</td>
</tr>
</tbody>
</table>

### Required Courses for Intermediate and Secondary-Level TD

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU201</td>
<td>Fundamentals of Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU301</td>
<td>School Counseling</td>
<td>3</td>
</tr>
<tr>
<td>EDU310</td>
<td>Computers in Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU332</td>
<td>Educational Measurement</td>
<td>3</td>
</tr>
</tbody>
</table>

**Practice Teaching—Secondary:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU425</td>
<td>Practice Teaching, Secondary Math Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU426</td>
<td>Practice Teaching, Secondary Science Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU427</td>
<td>Practice Teaching, Secondary English Education</td>
<td>3</td>
</tr>
</tbody>
</table>

One Methods Course from the following (as recommended by advisor):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU312</td>
<td>TEFL</td>
<td>3</td>
</tr>
<tr>
<td>EDU314</td>
<td>The Teaching of Social Studies</td>
<td>3</td>
</tr>
<tr>
<td>EDU315</td>
<td>The Teaching of Math-Intermediate &amp; Secondary</td>
<td>3</td>
</tr>
<tr>
<td>EDU316</td>
<td>The Teaching of Science-Intermediate &amp; Secondary</td>
<td>3</td>
</tr>
<tr>
<td>ART333</td>
<td>Art Education</td>
<td>3</td>
</tr>
</tbody>
</table>

* Required for ECE

---

### BACHELOR OF SCIENCE DEGREE PROGRAM

#### BIOLOGY

The BS in Biology program aims at providing a broad education with special emphasis on Biology (theory and practice). It also prepares students for an eventual career in biology-related fields (e.g., pharmaceuticals, cosmetic or food processing industries, medical laboratories, etc.). It further prepares students for admission to graduate work in biology, the medical sciences, veterinary schools, pharmacy and public health, as well as agricultural sciences.

#### Biology [38 cr]

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO201</td>
<td>Biology I</td>
<td>4</td>
</tr>
<tr>
<td>BIO202</td>
<td>Biology II</td>
<td>4</td>
</tr>
<tr>
<td>BIO211</td>
<td>Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>BCH301</td>
<td>Introduction to Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIO341</td>
<td>Plant Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO345</td>
<td>Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIO343</td>
<td>Human Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>BIO331</td>
<td>Ecology</td>
<td>4</td>
</tr>
<tr>
<td>BIO321</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO499</td>
<td>Senior Study</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Chemistry [13 cr]

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM201</td>
<td>Chemical Principles</td>
<td>3</td>
</tr>
<tr>
<td>CHM204</td>
<td>Quantitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CHM311</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHM312</td>
<td>Organic Chemistry II</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Mathematics and Computer [9 cr]

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH201</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>STA205</td>
<td>Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>CSC215</td>
<td>Computer Programming I</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Physics [7 cr]

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY201</td>
<td>Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHY321</td>
<td>Introduction to Modern Physics</td>
<td>3</td>
</tr>
</tbody>
</table>
### Chemistry

Students in this program learn basic chemical facts, principles, theories and laboratory techniques. They are offered greater insight into the philosophy and methodology of science. The program helps them to learn about problems from several viewpoints and determine what information and tools are necessary for a scientific solution. It provides students with sound basic training for professional pursuits in chemistry and related areas of science, such as biology, nursing, medical technology and medicine and prepares them for graduate study.

<table>
<thead>
<tr>
<th>Chemistry Requirements</th>
<th>41 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM201 Chemical Principles</td>
<td>3</td>
</tr>
<tr>
<td>CHM202 Analytical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM203 Qualitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CHM204 Quantitative Analysis</td>
<td>2</td>
</tr>
<tr>
<td>CHM311 Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHM312 Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>CHM331 Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>CHM332 Quantum Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHM333 Chemical Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>CHM334 Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHM421 Inorganic Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHM422 Inorganic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHM411 Identification of Organic Compounds</td>
<td>3</td>
</tr>
<tr>
<td>or CHM401 Instrumental Analysis</td>
<td>3</td>
</tr>
<tr>
<td>or CHM499 Senior Study</td>
<td>3</td>
</tr>
</tbody>
</table>

### Mathematics & Computer Requirements

<table>
<thead>
<tr>
<th>Mathematics &amp; Computer Requirements</th>
<th>9 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH201 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>STA202 Applied Statistics</td>
<td>3</td>
</tr>
<tr>
<td>CSC215 Computer Programming I</td>
<td>3</td>
</tr>
</tbody>
</table>

### Physics Requirements

<table>
<thead>
<tr>
<th>Physics Requirements</th>
<th>7 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY201 Electricity and Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHY321 Introduction to Modern Physics</td>
<td>3</td>
</tr>
</tbody>
</table>

### Computer Mathematics

Computer Mathematics as an interdisciplinary major is a coordinated program involving basic courses in the two disciplines. It prepares students for post-graduate work either in Mathematics or Computer Science. They may then work as programmers, systems analysts, or, in data processing departments of business or financial organizations. The program provides students with a solid foundation in mathematics and computer science theories, and acquaints them with a variety of applications in other fields. It helps them understand and design software systems, as well as grasp the fine points of hardware design. The total credits required in the major are 48 (18 or 21 credits for computer, 27 or 24 credits for mathematics and 3 credits for other requirements).

### Computer Science

<table>
<thead>
<tr>
<th>Computer Science</th>
<th>24 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC215 Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CSC216 Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>CSC315 File Processing</td>
<td>3</td>
</tr>
<tr>
<td>CSC316 Software Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CSC410 Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>CSC321 Data Structures and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>or CSC218 Microcomputer Organization</td>
<td>3</td>
</tr>
<tr>
<td>or CSC488 Topics in Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>MTH499 Senior Study in Mathematics or</td>
<td>3</td>
</tr>
<tr>
<td>CSC499 Computer Science Senior Study</td>
<td>3</td>
</tr>
</tbody>
</table>

### Mathematics

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>22 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTH201 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MTH301 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MTH202 Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MTH206 Calculus IV</td>
<td>3</td>
</tr>
<tr>
<td>MTH311 Algebra</td>
<td>3</td>
</tr>
<tr>
<td>STA302 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MTH303 Numerical Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

### Other Requirements

<table>
<thead>
<tr>
<th>Other Requirements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC201 Principles of Accounting I</td>
<td>3</td>
</tr>
</tbody>
</table>

### Computer Science

The Computer Science curriculum prepares students for participation in this rapidly changing area of technology with job options as programmers, systems analysts, managers in data processing departments or as software engineers. It also prepares them for pursuing further graduate studies. The program offers students a broad basic core of knowledge required in today’s information society, in addition to specialized knowledge of subjects, such as networking, object-oriented programming, and artificial intelligence. The program also features a “Topics” course which may be taken more than once for credit to allow students to gain even more in-depth knowledge in a computer science area.
Such diversity is the key to a sound computer science education. The total credits required in the major are 60 (42 credits for computer — 30 credits of core requirements and 12 of electives — and 15 credits for mathematics).

Core Requirements 30 cr
CSC215  Computer Programming I  3
CSC216  Computer Programming II  3
CSC218  Microcomputer Organization  3
CSC315  File Processing  3
CSC316  Software Engineering  3
CSC321  Data Structures and Algorithms  3
CSC325  Logic Design of Digital Systems  3
CSC333  Database Systems  3
CSC401  Computer Science Internship  1
CSC415  Operating Systems  3
CSC499  Computer Science Senior Study  2

Electives — Choose four 12 cr
CSC421  Object-Oriented Programming  3
CSC423  Programming Languages  3
CSC424  Computer Architecture  3
CSC426  Computer Networks  3
CSC427  Systems Programming  3
CSC428  Artificial Intelligence  3
CSC488  Topics in Computer Science  3

Mathematics 15 cr
MTH201  Calculus III  3
MTH202  Discrete Mathematics  3
MTH206  Calculus IV  3
MTH301  Linear Algebra  3
MTH303  Numerical Analysis  3

General University Requirements 33 cr

Major Requirements 40 cr
GRA201  Rendering and Studio Skills  3
GRA202  Introduction to Computer Graphics  3
GRA212  Introduction to Typography  3
GRA301  Intermediate Computer Graphics  3
GRA302  Advanced Computer Graphics  3
GRA312  Printing Variables  3
GRA342  Art of Illustration  3
GRA351  Graphic Design I  3
GRA352  Graphic Design II  3
GRA411  Advanced Typography  3
GRA432  Visual Perception  3
GRA451  Graphic Design III  3
GRA452  Graphic Design IV  3
GRA490  Graphic Design Internship  1

Other Requirements 21 cr
ART201  Fundamentals of Design I  3
ART202  Fundamentals of Design II  3
ART221  Drawing I  3
ART222  Drawing II  3
ART332  History of Art II  3
or
ART431  Modern Art  3
--------  Photography Elective  3
MKT201  Introduction to Marketing  3

Graphic design electives at least 6 cr
ART  Fine Arts Studio Elective  3-6
ART  Art History Electives  3-6
COM  Communication Arts Elective  3-6
PHO---  Photography Elective  3
GRA341  Art of Calligraphy  3
GRA462  Graphic Design Seminar  3
GRA472  Digital Media Design  3

GRAPHIC DESIGN

Graphic designers translate ideas to a defined audience through the use of words and images in printed, environmental and electronic presentations of information. This translation includes the expression of messages that inform, persuade and incite individuals and audiences to action.

The graphic designer’s realm of expertise includes: the design of all printed matter, such as logos, posters, information graphics, packaging, publications, complex visual identity systems; the design of environmental signage systems; and the design of electronic and motive media such as film and television productions, multimedia presentations, web sites, and information systems. The creative skills of the graphic designer are employed and applied across the spectrum of communication, providing information, publicity, promotion, and persuasion in many fields including commerce, industry, public services, education, the media, publishing, leisure, tourism and the arts.
MATHEMATICS EDUCATION

Teacher certification program in Mathematics and Science Education are offered (in conjunction with the Education Program) to prepare students for teaching Mathematics or Science at the secondary level. The total credits required are 49 (25 credits for mathematics, 18 for the Teaching Diploma and six credits for other requirements). The Teaching Diploma consists of 18 credits to be taken over and above bachelor’s degree requirements.

Mathematics 25 cr
- MTH201 Calculus III 3
- MTH301 Linear Algebra 3
- MTH206 Calculus IV 3
- MTH302 Geometry 3
- MTH311 Algebra 3
- STA302 Statistics 4
- MTH303 Numerical Analysis 3
- MTH499 Senior Study 3

Education 18 cr
- EDU201 Fundamentals of Education 3
- EDU301 School Counseling 3
- EDU310 Computers in Education 3
- EDU332 Educational Measurement 3
- EDU315 The Teaching of Mathematics in Intermediate & Secondary Schools 3
- EDU425 Practice Teaching-Secondary Math Education 3

Computer Science 6 cr
- CSC215 Computer Programming I 3
- CSC216 Computer Programming II 3

BIO343 Human Anatomy and Physiology 4
BIO345 Cell and Molecular Biology 4
BIO499 Senior Study 3

Chemistry 21 cr
- CHM201 Chemical Principles 3
- CHM202 Analytical Chemistry 3
- CHM203 Qualitative Analysis 2
- CHM204 Quantitative Analysis 2
- CHM311 Organic Chemistry I 4
- CHM312 Organic Chemistry II 4
- CHM499 Senior Study 3

Physics 14 cr
- PHY111 Mechanics 4
- PHY201 Electricity & Magnetism 4
- PHY311 Dynamics 3
- PHY321 Introduction to Modern Physics 3

Education 18 cr
- EDU201 Fundamentals of Education 3
- EDU301 School Counseling 3
- EDU310 Computers in Education 3
- EDU332 Educational Measurement 3
- EDU316 The Teaching of Science in Secondary Schools 3
- EDU426 Practice Teaching-Secondary Science Education 3

Other Requirements 6 cr
- CSC215 Computer Programming I 3
- STA202 Applied Statistics 3
or
- STA205 Biostatistics 3

SCIENCE EDUCATION

The Science Education major gives students basic knowledge in biology, chemistry, and education. It fosters a reverence for life in all its forms and creates a desire in students to study the world around them. It provides them with techniques to conduct scientific studies and to teach science at the secondary school level. The Teaching Diploma consists of 18 credits to be taken over and above bachelor’s degree requirements.

Biology 22 cr
- BIO201 Biology I 4
- BIO202 Biology II 4
- BIO321 Genetics 3

MA Programs
The mission of the Program in Comparative Literature at LAU is to provide instruction and to conduct research in literature, cultural criticism and translation with special attention to the cultural specificity of Lebanon and the region. The aim is to educate scholars and intellectuals to articulate the importance of literature and other cultural productions.

Advanced training is offered in three areas of study:
1) Literature and other cultural productions. Students will achieve broad intercultural competence in genre, period and theme.
2) Theoretical frameworks. Students will explore a range of literary and cultural theories and demonstrate significant mastery of one or two.
3) Research methods and written and oral expression. Students will work with experienced researchers in a variety of media and receive advanced training in written and oral communication.

Graduates of the M.A. Program in Comparative Literature can pursue several career options:
1) Enter a Ph.D. program in literature or comparative studies
2) Obtain advanced standing in secondary school teaching
3) Work as literary translators
4) Work as specialists in literature and culture for the press, in publishing in diplomacy or in business

Graduate students in Comparative Literature complete 33 credit hours of coursework in three areas:

A. Eighteen credits of core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLT 501 Methodologies of Comparative Literature</td>
<td>3</td>
</tr>
<tr>
<td>CLT 502 Literary Theory I</td>
<td>3</td>
</tr>
<tr>
<td>CLT 503 Literary Theory II</td>
<td>3</td>
</tr>
<tr>
<td>CLT 601 Genre</td>
<td>3</td>
</tr>
<tr>
<td>CLT 602 Period</td>
<td>3</td>
</tr>
<tr>
<td>CLT 603 Thematics</td>
<td>3</td>
</tr>
</tbody>
</table>

B. Nine credits of coursework in one of the following:

1) A national literature and culture
2) A non-literature cognate (graduate-level courses in a field of interest such as anthropology, film, history, music, philosophy, etc.)
3) Literary translation

C. A written comprehensive exam and a six-credit Master's thesis

CERTIFICATE IN LITERARY TRANSLATION

In addition to the Master's degree, the Program in Comparative Literature offers a Certificate in Literary Translation. Requirements include three credits of coursework in addition to the translation option as well as an original translation project.

EDUCATION

The educational sector in Lebanon is witnessing an active movement of reform. The development of new curricula has raised debates and elicited questions about professional practices and development. The education reforms have also brought about new and redefined jobs. The program provides knowledge, practical training, continuous updating on technological developments and challenging opportunities for those interested in working in school settings, educational institutions, community centers, educational research and development. The program's various specialty areas provide students with the opportunity to become qualified coordinators, supervisors, officers for teacher development, curriculum specialists, school administrators.

REQUIREMENTS

A student may choose one of two tracks: General Professional Development or a Specialist Area. In total, students have to accumulate 30 credits at the Master's level. The program comprises four blocks:

I. CORE EDUCATION COURSES 12 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU802 Curriculum Design</td>
<td>3</td>
</tr>
<tr>
<td>EDU803 Methods of Educational Research</td>
<td>3</td>
</tr>
<tr>
<td>EDU805 Educational Technology</td>
<td>3</td>
</tr>
<tr>
<td>EDU806 Advanced Educational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

II. ELECTIVES 6 cr

Two Education courses at the Master’s level:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDU812 Literacies across the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>EDU814 Comparative Education</td>
<td>3</td>
</tr>
<tr>
<td>EDU888 Topics in Education</td>
<td>3</td>
</tr>
</tbody>
</table>

III.

A. General Professional Development 6 cr

Choose any two education courses at the graduate level

B. Specialist Areas

Choose one specialist area
Specialist 1: Math Education  
EDU822 Trends and Issues in Math Education 3  
EDU823 Technology in Math Education 3

Specialist 2: TESOL  
EDU852 Trends and Issues in TESOL 3  
EDU853 Sociolinguistics and Social Context of Language 3

Specialist 3: Management  
EDU832 Leading and Managing Schools/Educational Institutions 3  
EDU833 Leading Effective Educational Management 3

Specialist 4: Early & Middle Childhood  
EDU842 Trends and Issues in Early and Middle Childhood Education 3  
EDU843 Pedagogy in Early and Middle Childhood Education 3

Specialist 5: Science Education  
EDU862 Trends and Issues in Science Education 3  
EDU863 Technology in Science Education 3

IV. RESEARCH WORK  
Students may choose one of the following two options:

- Option 1: an extended Field Research leading to EDU899 Thesis  
- Option 2: One education course at the Master’s level (3 credits) plus EDU898 Project.

Note: Some of the MA courses (mostly specialist) are offered in summer.

INTERNATIONAL AFFAIRS  

A new world order has been engendering challenges, opening vistas and prospects for the generations of young men and women with international affairs interests, concerns and orientations. The LAU graduate program in International Affairs is designed to cover the various dimensions of the discipline and cope with its real-life applicability.

For those who take the MA as a terminal degree, targets are upper-grade positions in government bureaucracies and international organizations, institutions and agencies. The targets include positions in private international organizations and multinational corporations. To Ph.D. seekers and aspirants, on the other hand, the program provides the necessary theoretical-methodological tools essential for high-level intellectual pursuits.

INA811 Theories of International Affairs 3  
INA899 Thesis 6

Choose 7 of the following:

INA812 Foreign Policy Analysis 3  
INA821 Diplomacy and Bargaining 3  
INA831 International Political Economy 3  
INA841 Private International Law 3  
INA842 Topics in International Law 3  
INA813 Topics in International Relations 3  
INA851 International Conflict & Conflict Resolution 3  
INA814 Topics in Middle East International Relations 3  
INA815 Topics in International Organizations 3

Students need 30 credits for the major (9 credits for the core and 21 credits for other requirements).

MASTER OF SCIENCE DEGREE PROGRAM

COMPUTER SCIENCE

The graduate program is intended to develop the abilities of students vocationally and academically; graduates should be able to pursue higher-grade employment and/or be prepared to proceed to a Ph.D. program. The MS program offers a sufficient level of breadth that guarantees general knowledge in major areas of Computer Science. These areas, listed below, were chosen carefully to span the four major Computer Science areas. The MS program also offers a sufficient level of depth that allows students some degree of specialization. As such, students will have the requisite background needed to pursue higher education and be able to conduct research. The graduate curriculum also provides good practical experience by allowing students to choose from a variety of applied and implementation-oriented courses.

The graduate curriculum requires one core course which is fundamental to the study of computer science. Students, however, will have three additional courses, one from each area. The four concentration areas are:

1. Theory and Algorithms  
2. Systems  
3. Hardware and Architecture  
4. Software Engineering

The remaining courses may be chosen from any of the
four areas without restrictions. It is recommended that these courses be chosen in the student’s Thesis or Project area. However, this will be left to the faculty advisor and the student to decide upon. The graduate program also offers an “Advanced Topics” course which may be taken more than once to allow students to gain even more in-depth knowledge in a Computer Science area. This course may be repeated for credits more than once.

REQUIREMENTS

Students need 30 credits for the major (12 credits for the core—one course from each area, 3 credits for Project or 6 for Thesis—and 12 or 15 for the electives). These credits are distributed as follows:

A. Core Requirements:

Four courses — one from each of the areas listed below. “Design and Analysis of Algorithms” is mandatory from the “Theory and Algorithms” area.

B. Choose one of:

CSC899 Thesis 6
CSC898 Project 3

C. Choose from the following electives:

Theory and Algorithms
CSC841 Design and Analysis of Algorithms (mandatory) 3
CSC843 Automata Theory and Formal Languages 3
CSC845 Logic Programming 3
CSC847 Computer Graphics 3
CSC849 Optimization Methods 3

Systems
CSC822 Compilers 3
CSC824 Advanced Database System 3

CSC826 Distributed Operating Systems 3
CSC828 Knowledge-Based Expert Systems 3

Hardware and Architecture
CSC831 Advanced Computer Networks 3
CSC833 High Performance Computer Architecture 3
CSC835 VLSI Design Automation 3

Software Engineering
CSC853 Object-Oriented Software Development 3
CSC855 Graphical User Interface 3
CSC851 Advanced Software Engineering 3
CSC888 Research Topics in Computer Science (may be in any of the four concentration areas) 3

MOLECULAR BIOLOGY

This decade’s overwhelming developments and advances in medicine, biotechnology and the environment are mostly due to recent achievements and breakthroughs in the field of molecular biology. Molecular biology systems (biotechnology) are employed in environmental studies and remediation on polluted ecosystems and have direct application in the fields of pharmaceuticals, foods, immune diagnosis and gene therapy.

While LAU’s current BS in Biology gives students basic knowledge and tools for biological investigation, the graduate program goes a step further by providing the necessary background, knowledge and training to deal with the challenges of the future in biological disciplines.

The master’s degree program aims to provide Lebanon with qualified specialists trained in modern molecular, nutritional and ecological fields – which will be increasingly in demand in the Middle East.

LAU has a capable faculty and top facilities in Beirut and Byblos. The labs, equipped with ultra modern instrumentation for research, are the best in the country.

The MS in Molecular Biology curriculum comprises the following requirements:

I. Core graduate courses 12 cr
II. Elective graduate courses 12 cr
III. Thesis 6 cr
Total 30 cr

I. MS Core Courses
BIO805 Research Methods I 3
BIO806 Research Methods II 3
### MS Programs

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO822</td>
<td>Advanced Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO841</td>
<td>Molecular Physiology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12 cr</strong></td>
</tr>
</tbody>
</table>

### II. MS Elective Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO820</td>
<td>Applied and Industrial Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO825</td>
<td>Diagnostic Microbiology and Immunology</td>
<td>3</td>
</tr>
<tr>
<td>BIO826</td>
<td>Advanced Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>BIO828</td>
<td>Biotechnology and Gene Diagnostics</td>
<td>3</td>
</tr>
<tr>
<td>BIO829</td>
<td>Endocrinology and Metabolism</td>
<td>3</td>
</tr>
<tr>
<td>BIO834</td>
<td>Environmental Health and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>BIO838</td>
<td>Environmental and Marine Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIO881</td>
<td>Special Topics in Biology</td>
<td>3</td>
</tr>
</tbody>
</table>

### III. Thesis

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO899</td>
<td>Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

### Special Topics in Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO831</td>
<td>Population Ecology and Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIO836</td>
<td>Management of Ecosystems</td>
<td>3</td>
</tr>
<tr>
<td>BIO843</td>
<td>Comparative Physiology</td>
<td>3</td>
</tr>
</tbody>
</table>
**ADVERTISING DESIGN / PHOTOGRAPHY**

**PHO211 Photography I** | 2-3 | 3 cr. Introduction to basic photographic methods. Applied study in pictorial composition and darkroom procedures in relation to advertising.

**PHO212 Photography II** | 2-3 | 3 cr. Examines the use of still photography as a means of documenting contemporary society; application of the medium to visual analysis and presentation of that society.

**ARABIC STUDIES**

**ARA101 & 102 Essay Reading and Writing** | 3-0 | 3 cr. This course concentrates on essay reading and writing. It includes a thorough study of the essay, its development and its various types. Readings illustrating different types of essays will be used for literary analysis and written exercises in précis and essay writing. This course will include: a) a systematic review of grammar rules and their application, b) some training in speech, discussion and interpretive reading.

**ARA201 Appreciation of Arabic Literature** | 3-0 | 3 cr. The theoretical part of this course deals with essential characteristics of literature as well as literary themes, schools, and genres. The practical part includes intensive analyses of selected excerpts illustrating important literary forms and trends.

**ARA301 Advanced Arabic Grammar** | 3-0 | 3 cr. This course covers fundamental principles of the Arabic language and deals with grammatical and syntactic mistakes commonly made by students in writing. It includes written exercises. Pre-requisite: ARA201 Appreciation of Arabic Literature.

**ARA302 Arabic Rhetoric** | 3-0 | 3 cr. This course includes the main forms of rhetoric and their application in ancient and modern poetry and prose. It includes written exercises in rhetorical and literary analysis. Pre-requisite: ARA201 Appreciation of Arabic Literature.
ARA321 Creative Writing | 3-0 | 3 cr. This course aims at training the students to write correctly in Arabic in several styles, especially those proper to literature and the mass media. Pre-requisite: ARA201 Appreciation of Arabic Literature.

ARA322 Principles of Translation | 3-0 | 3 cr. Principles of translation. Translation from English into Arabic and vice versa. Pre-requisite: ARA201 Appreciation of Arabic Literature.

ARA332 Ancient Arabic Literature | 3-0 | 3 cr. Representative authors of pre-Islamic, Omayyad and Abbassid periods are studied. Extracts from their main works in poetry and prose are read and analyzed. Pre-requisite: ARA201 Appreciation of Arabic Literature.

ARA333 New Trends in Modern Literature | 3-0 | 3 cr. This course studies the intellectual background of modern and contemporary Arabic prose and poetry, analyzing chosen texts by leading authors. Pre-requisite: ARA201 Appreciation of Arabic Literature.

ARA341 Modern Arabic Novel & Short Story | 3-0 | 3 cr. This course traces the origin of fiction in ancient Arabic Literature and the development of the modern Arabic novel and short story in the 20th century. Works by representative authors are analyzed. Pre-requisite: ARA201 Appreciation of Arabic Literature.

ARA342 Arabic Drama | 3-0 | 3 cr. An introduction to the principles of dramatic art, its evolution from classicism to romanticism and modern trends, as well as its development in the Arab world in the 19th and 20th Centuries through the study of representative authors in the field. Pre-requisite: ARA201 Appreciation of Arabic Literature.
**BIOCHEMISTRY**

BCH301 Biochemistry | 4-0 | 4 cr. The study of modern biochemistry concepts in the regulation of the metabolism of carbohydrates, lipids, proteins and nucleic acids. Enzymes and coenzymes will also be discussed. Prerequisite: BIO201 Biology I.

**BIOLOGY (Undergraduate)**

BIO101 Introduction to Biological Science | 3-3 | 4 cr. General Biology for arts students. A simplified presentation of basic biological concepts, with emphasis on the integrated function of the human biology systems. (Arts students may choose the BIO201-202 bi-semester sequential course following approval of the advisor and the course’s instructor.)

BIO201 Biology I | 3-3 | 4 cr. A detailed study of the animal kingdom including evolution, classification, anatomical and embryological morphology, with emphasis on the in-depth study of organ systems. Genetical properties of protozoans are also discussed.

BIO202 Biology II | 3-3 | 4 cr. A brief study of kingdom prokaryotae, plant-like protists and viruses and a detailed study of kingdom plantae with particular focus on the classification, evolution, ecology, structure and function of the angiosperms and gymnosperms.

BIO211 Microbiology | 3-3 | 4 cr. Basic biology of bacteria, fungi, algae, protozoa, and viruses, with emphasis on microbial metabolism, genetics, pathogenecity and pathogenesis. Principles of immunobiology. Prerequisite: BIO201 Biology I.

BIO321 Genetics | 3-0 | 3 cr. A study of factors governing heredity and variation in plants and animals on the classical and modern levels, with an emphasis on molecular and microbial genetics and an introduction to recombinant DNA technology. Prerequisites: BIO201 Biology I and BIO202 Biology II.

BIO331 Ecology | 3-3 | 4 cr. The study of the relationships between living organisms and their environment. Major ecology concepts related to structure, function, organization and regulation at various levels (population community and ecosystem) are covered via theory, classroom work and practice, laboratory work and field trips. Prerequisites: BIO201 Biology I and BIO202 Biology II.

BIO341 Plant Physiology | 3-3 | 4 cr. The study of fundamental processes underlying survival, growth, development and normal functions of plants with special emphasis on photosynthesis, respiration, mineral nutrition, water absorption and transpiration, translocation of solutes, hormonal control and development. Prerequisites: BIO202 Biology II and CHM312 Organic Chemistry II.

BIO343 Human Anatomy and Physiology | 3-3 | 4 cr. An anatomical and physiological approach to the study of the cardiovascular, nervous, endocrine, muscular respiratory, excretory, digestive and reproductive systems, with emphasis on human homeostasis. Prerequisites: BIO201 Biology I.

BIO345 Cell and Molecular Biology | 3-3 | 4 cr. An integration of the approaches of the cytology, biochemistry, genetics and physiology to provide a comprehensive understanding of the operation of cells as units of structure and function in living organisms. Prerequisites: BIO202 Biology II, BIO343 Human Anatomy and Physiology and CHM312 Organic Chemistry II or consent of instructor.

BIO401 Developmental Biology | 3-3 | 4 cr. The study of developmental processes and principles operating during embryogenesis from gamete formation to morphological and biochemical differentiation of various organ systems. Prerequisites: BCH301 Introduction to Biochemistry and BIO321 Genetics.
BIO499 Senior Study | 3-3 | 3 cr. A course designed to teach research methods, including a survey of literature on a problem in biology, a laboratory investigation of some phase of it, and, its presentation in a paper. Prerequisite: senior standing.

**BIOLOGY (Graduate)**

BIO805 Research Method I | 1-6 | 3 cr. This course introduces students to a variety of advanced laboratory and field techniques employed in the basic and applied biological research. Part of this course includes seminar presentations by the students.

BIO806 Research Method II | 1-6 | 3 cr. It involves the use of biological networks for retrieval of information and for interactive studies. It deals with sampling techniques, handling of specimen, experimental procedures, data keeping, processing, analysis and scientific publications.

BIO820 Applied and Industrial Microbiology | 2-3 | 3 cr. The course deals with industrial microorganisms and their applications in the industrial process for large scale production of antibiotics, vitamins, aminoacids, enzymes and organic acids. It also deals with microbial bioconversions and production of food from microorganisms, sewage and wastewater microbiology as well as applications of genetically engineered microorganisms to obtain novel products.

BIO822 Advanced Molecular Biology | 3-0 | 3 cr. The course emphasizes principles and information, which form the contemporary basis for molecular biology. The following subjects are covered: Prokaryotic molecular genetics, RNA and DNA biosynthesis, protein biosynthesis, DNA recombination, regulation of gene expression, eucaryotic molecular genetics, RNA and DNA viruses, oncogenes, attenuation, global control, signal transduction, two-component regulatory systems.

BIO825 Diagnostic Microbiology and Immunology | 2-3 | 3 cr. Biochemical, serological and automated methods used in the laboratory diagnosis of infectious diseases. The laboratory part of the course allows for better understanding through application. Topics include: monoclonal antibody production, detection of fluorescent antibodies, enzyme-linked immunosorbent assay, radioimmunoassay, gas-liquid chromatography, high performance liquid chromatography, mass spectrometry, time-resolved immunofluorescence, nucleic acid probes in clinical diagnostic, and diagnostic virology and parasitology.

BIO826 Advanced Cell Biology | 3-0 | 3 cr. Molecular analysis of eucaryotic cells, including cell structure, receptors, cell-cell interactions, cytoskeleton, growth, differentiation, transformation, flow of genetic information, cell regulation, signaling, apoptosis, oncogenesis, development and causes of cancer. It deals with organization of the genome and genetic rearrangements, proteins sorting, distribution, secretion and endocytosis as well as the origins of cellular life.

BIO828 Biotechnology and Gene Diagnostics | 3-0 | 3 cr. Deals with the fundamental biotechnological aspects and principles of gene manipulation currently employed in research on animal, plant and microbial cells. It discusses molecular cloning, plasmids and bacteriophages as cloning vectors, expression of mammalian genes in bacteria, growth of animal and human embryonic stem cells and the production of mammalian metabolites and vaccines by genetically engineered microorganisms. The course emphasizes molecular techniques used in the diagnosis of diseases. Techniques covered include: cell and tissue culturing, recombinant DNA and other analytical procedures such as gene cloning, gene transfer, DNA sequencing, 16S rRNA/DNA sequencing, restriction mapping, use of monoclonal antibodies, DNA hybridization using natural and synthetic gene probes, immunoblot procedures, and karyotyping.
**BIO829 Endocrinology and Metabolism** | 3-0 | 3 cr. The study of biochemical messengers, integrators and coordinators of general developmental and physiological processes with stress on metabolic mechanisms. It deals with biosynthesis, secretion, mechanisms of action and bioactivities of the hormones, as well as diagnostic technologies.

**BIO834 Environmental Health and Toxicology** | 3-0 | 3 cr. An introduction to the methodology of practical control of environmental factors that affect disease, disorders and health. It deals with physical environmental stresses and relates to biological factors and vectors. An overall view of the general principles of toxicology: environmental contamination, pollution, their routes and pathways.

**BIO838 Environmental and Marine Microbiology** | 3-0 | 3 cr. Microbial evolution, microbial interaction with animals and plants in aquatic and terrestrial environments, impact of abiotic factors and environmental extremes on microorganisms, microbial communities and ecosystems, microorganisms in natural habitats, biogeochemical cycling of elements, biodegradability testing and monitoring of biomediation of xenobiotic pollutants and biotechnological aspects of biodeterioration control.

**BIO841 Molecular Physiology** | 3-0 | 3 cr. An in-depth consideration and theoretical analysis of the physiological aspects of body organization, regulation, integration, maintenance and continuity; with special emphasis on modern application of knowledge in the domain of physiology as related to the normal and upset homeostasis.

**BIO881 Special Topics in Biology** | 3-0 | 3 cr. Selected recent and contemporary advances in the various applied fields of the biological sciences and affiliated disciplines.

**BIO899 Thesis** | 6 cr. As the MS in Molecular Biology is considered a research degree, candidates must present a thesis that should contain original contributions to knowledge. The main purposes of a master’s thesis are to demonstrate the student’s ability to make independent use of information and training and to furnish objective evidence of constructive powers in a chosen field. The thesis must show familiarity with previous work in the field and must demonstrate ability to carry out research and organize results. The thesis must be expressed in good, literate style.

**CHEMISTRY**

**CHM101 General Chemistry** | 3-3 | 4 cr. An introduction to atomic structure, chemical bonding, gases, stoichiometry, chemical kinetics and electro-chemistry.

**CHM201 Chemical Principles** | 3-0 | 3 cr. Atomic structure, chemical bonding, stoichiometry, mass spectrum, properties of gases, basic thermodynamics, kinetic theory, solids and liquids; solutions; ionic and chemical equilibrium in aqueous solutions. Prerequisite: CHM101 General Chemistry or equivalent.

**CHM202 Analytical Chemistry** | 3-0 | 3 cr. An introduction to the principles and methods of quantitative analysis of acid-base titration, complexometric methods of analysis. Precipitation methods, potentiometric methods, solvent extraction, chromatography and polarography, spectroscopic analytical methods, and atomic elemental analysis. Prerequisite: CHM201 Chemical Principles.

**CHM203 Qualitative Analysis** | 0-4 | 2 cr. Introductory experimental chemistry emphasizing properties of gases, colligative properties and qualitative analysis.

**CHM204 Quantitative Analysis** | 0-4 | 2 cr. Introductory experimental chemistry emphasizing properties of gases, colligative properties and qualitative analysis.

**CHM311 Organic Chemistry I** | 3-3 | 4 cr. Introduction to the basic concepts of organic chemistry with an emphasis on the relation between structure and properties. Chemistry of aliphatic hydrocarbons, alcohol, ethers
and stereochemistry. Laboratory emphasizes manipulation of functional groups and synthetic schemes. Prerequisite: CHM201 Chemical principles.

**CHM312 Organic Chemistry II | 3-3 | 4 cr.** A comprehensive study of the chemistry of aromatic compounds, carboxylic acids, phenols, amines, diazonium salts, carbanions, heterocyclics, carbohydrates and an introduction to the application of spectroscopic methods in organic chemistry. Laboratory emphasizes manipulation of functional groups and synthetic schemes. Prerequisite: CHM311 Organic Chemistry I.

**CHM331 Thermodynamics | 3-0 | 3 cr.** The three laws of thermodynamics and their application to chemical systems. Prerequisites: MTH201 Calculus III, CHM201 Chemical principles.

**CHM332 Quantum Chemistry | 3-0 | 3 cr.** Quantum theory, postulates, Schrödinger equation of hydrogen, H+2 and H2 ... . Atomic and molecular orbitals Huckel approximation, Atomic and molecular spectra. Prerequisites: CHM201 Chemical Principles and MTH201 Calculus III.

**CHM333 Chemical Dynamics | 3-0 | 3 cr.** Kinetic theory of gases, rate laws, mechanism, Bodenstein approximation, fast reactions, photochemistry, ion transport, reaction rate theories, statistical thermodynamics.

**CHM334 Physical Chemistry Laboratory | 0-4 | 2 cr.** Principles and experimental techniques in thermochemistry, kinetic and electrochemistry. Prerequisites: CHM333 Chemical Dynamics or concurrently.

**CHM401 Instrumental Chemical Analysis | 1-4 | 3 cr.** An introduction to modern physical-chemical methods of analysis with theoretical concepts of instrumentation and applications, including emission and absorption spectroscopy, nuclear magnetic resonance spectroscopy and chromatography. Prerequisites: CHM202 Analytical Chemistry, CHM204 Chemical Analysis.

**CHM411 Identification of Organic Compounds | 1-4 | 3 cr.** A theoretical and practical study of the separation and identification of organic compounds by wet techniques and spectroscopic methods. Prerequisite: CHM312 Organic Chemistry II.

**CHM421 Inorganic Chemistry I | 3-0 | 3 cr.** A study of hydrogen-like orbitals, multielectron atoms, ionic bonding and crystals, covalent bonding, electronegativity scales, hybridization, Bent rule, symmetry point groups, symmetry adapted orbitals, Berry pseudo-rotation, fluxional molecules, acids and bases, chemistry of the main group elements and oxidation reduction reactions. Prerequisite: CHM201 Chemical Principles, CHM332 Thermodynamics or concurrently.

**CHM422 Inorganic Chemistry II | 3-0 | 3 cr.** Chemistry of coordination compounds and organometallic compounds. Prerequisites: CHM421 Inorganic Chemistry I.

**CHM499 Senior Study | 3-0 | 3 cr.** A course designed to teach research methods. It includes work on a short, novel research topic and the presentation of the findings in a research paper. Prerequisite: Senior standing.

**COMMUNICATION ARTS**

**COM211 Introduction to Mass Communication | 3-0 | 3 cr.** The development, process, principles and effects of print, PR, advertising, radio, TV, film, satellite and computer-assisted communication. Prerequisite: ENG102 English II. Can be taken concurrently.

**COM212 Media and Society | 3-0 | 3 cr.** An introduction to the social responsibilities of the mass communicator in Lebanon, the Middle East and the world. An examination of the mass media in terms of the social, political and economic forces which influence and shape them. Prerequisite: ENG102/English II. Can be taken concurrently.
COM213 Public Relations | 3-0 | 3 cr. Principles of public relations, PR ethics, corporate social responsibility, public affairs, promotional campaigns, media relations. Prerequisite: COM211 Introduction to Mass Communication.

COM214 News Writing and Reporting | 3-0 | 3 cr. This course covers principles of news gathering, writing and judgement for all the media: newspapers, magazines, wire services (news agencies), radio, TV. Study of news sources, field work/assignments, research and interview techniques and editing. Writing assignments on the substance and styles of reporting. Prerequisite: COM211 Introduction to Mass Communication.

COM215 Photojournalism | 3-0 | 3 cr. Conventional photography and video/computer aspects of gathering and processing pictorial material for the print media and television. Practical experience through laboratory and field exercises in creating and handling such material. Prerequisite: none (PHO211 Photography I or COM235 Television Production I would be helpful).

COM216 Media Law & Ethics | 3-0 | 3 cr. Principles and case studies in mass media laws and regulations. Ethical and professional concerns, governmental regulations and commercial pressures. Prerequisite: COM211 Introduction to Mass Communication or COM212 Media and Society.


COM218 Arabic News Writing and Reporting | 3-0 | 3 cr. Principles of news gathering and writing for the Arabic-language media. Different styles of writing for news agencies, newspapers, magazines, radio, TV, editorials. Prerequisite: ARA201 Appreciation of Arabic Literature.

COM219 Media in the Middle East & Lebanon | 3-0 | 3 cr. A review of the mass media in the Middle East and Lebanon. Comparative analysis of various systems—private and government-controlled media—and influence of new technologies on traditional societies. Prerequisite: COM211 Introduction to Mass Communication and COM212 Media & Society.

COM222 Introduction to Radio/TV/Film | 3-0 | 3 cr. A study of the basic techniques of radio, TV and film from their beginnings to the present. Familiarization with equipment and basic production procedures will be stressed.

COM225 The Art of Film | 3-0 | 3 cr. The study of the formal and esthetic fundamentals of the film medium. Viewing and analysis of important films in the development of this art. Prerequisite: ENG102 English II.

COM227 Film Making | 3-0 | 3 cr. Principles and techniques of motion picture film production. Under the guidance of the instructor, the students will plan, write, direct and produce individual film projects. Prerequisite: COM225 The Art of Film.

COM229 History and Theory of Film | 3-0 | 3 cr. Study of the development of film from its beginnings. Prerequisite: COM225 The Art of Film.

COM235 Television Production I | 3-0 | 3 cr. The theory and practice of television, including basic program types, studio procedures and production problems (studio and on-location). Prerequisite: COM222 Introduction to Radio/TV/Film.

COM236 Radio Production I | 3-0 | 3 cr. Radio production as a means of communication and influence. Basic principles and production techniques. Prerequisite: COM222 Introduction to Radio/TV/ Film.

COM238 Drama Workshop | 1-3 | 3 cr. Various aspects of theatrical activities including building, scenery, properties, lighting, costumes, design, construction, etc.
COM239 Communication Graphics | 3-0 | 3 cr. The principles of graphic design and visual communication through the use of computers. Prerequisite: ART201 Fundamentals of Design (2-D), consent of instructor.

COM241 Introduction to Acting | 3-0 | 3 cr. An introduction to the actor’s technique and performer’s skills, exploring the elements necessary to begin training as an actor. Focus on physical and vocal exercises, improvisations, scene study.

COM242 Introduction to the Art of Theater | 3-0 | 3 cr. Introduction to the theater from its ancient origins to the present history: history, production, design, acting, direction, etc. Prerequisite: ENG101 English I. Can be taken concurrently.

COM243 Advanced Acting Techniques | 3-0 | 3 cr. Advanced scene study. Includes multiple scenes to clarify character development throughout a single script. Prerequisite: COM241 Introduction to Acting.

COM244 Introduction to Technical Stagecraft | 3-0 | 3 cr. Introduction to the visual aspects of theater production, including a survey of the principles and practices of theater organization and management, scene design and stage mechanics. Prerequisite: ENG102 English II or consent of instructor.

COM247 Theater in Performance | 3-0 | 3 cr. Credit may be earned by play production participation in major roles as an actor or in major positions as a technician under the direction of faculty members. Prerequisite: ENG102 English II or consent of instructor.

COM249 Theater in Lebanon & the Arab World | 3-0 | 3 cr. An overview of the history of theater in Lebanon and the Arab World from Maroun Naccache to the present. A study of selected Arabic plays in text and performance. The emergence of theater companies and the development of theater organizations and festivals. Prerequisite: COM242 Introduction to the Art of Theater.

COM255 Feature and Magazine Writing | 3-0 | 3 cr. Basics of writing feature articles for newspapers, magazines, news agencies, syndicates, newsletters and specialized publications. Interviewing and research methods. Prerequisite: COM214 News Writing & Reporting.

COM326 Script Writing | 3-0 | 3 cr. Principles and techniques of writing radio, TV and film scripts. Prerequisite: Senior standing.

COM327 Journalism Workshop | 3-0 | 3 cr. Intensive, computer-assisted, writing-oriented course in a laboratory setting. Re-writing wire service copy into straight news, magazine articles, editorials and features. Production of three issues of a student newspaper. Prerequisite: COM214 News Writing & Reporting.

COM328 Performance for TV & Film | 3-0 | 3 cr. Application of the principles of acting in performing for TV and film. Exercises in announcing, interviewing, hosting TV programs, performing in commercials and acting in dramatic TV programs and films.

COM335 TV Production II | 3-0 | 3 cr. Advanced TV production techniques in the studio and on location. Emphasis on planning and directing documentary, news, public affairs and dramatic programs. Prerequisite: COM235 TV Production I.

COM337 Creative Dramatics | 3-0 | 3 cr. A study of the principles and methods of developing original dramatizations with children. Observation of children’s classes in creative dramatics is included. Prerequisite: ENG102 English II.

COM338 Oral Interpretation | 3-0 | 3 cr. The recreation of prose, poetry and drama through oral readings. Emphasis on the principles and vocal techniques of reading aloud for an audience. Prerequisite: Junior standing.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM342 Play Production I</td>
<td>3-0</td>
<td>3 cr. Principles and techniques of producing a theatrical play. Exercises in staging selected scenes. A study of the structure and presentation of a one-act play. Prerequisites: COM244 Introduction to Technical Stagecraft and COM241 Introduction to Acting.</td>
</tr>
<tr>
<td>COM345 Modern Drama</td>
<td>3-0</td>
<td>3 cr. The development of the contemporary theater from Ibsen to the present, as studied in selected European and American plays. Prerequisite: COM242 Introduction to the Art of Theater or consent of instructor.</td>
</tr>
<tr>
<td>COM351 Desktop Publishing</td>
<td>3-0</td>
<td>3 cr. Theory and exercises in editing, transferring and merging text, graphics and photographs. Use of computer programs to create, design and print various types of publications. Prerequisite: knowledge of computer operations and consent of instructor.</td>
</tr>
<tr>
<td>COM424 Digital Images</td>
<td>3-0</td>
<td>3 cr. A survey of all aspects of digital technology, such as multimedia, 2-D, 3-D, animation, etc. Prerequisites: Senior standing and consent of instructor.</td>
</tr>
<tr>
<td>COM425 Computer-Assisted Video Editing</td>
<td>3-0</td>
<td>3 cr. Use of computer technology to edit video footage in creating documentary and dramatic TV programs. Prerequisites: COM335 TV Production II and consent of instructor.</td>
</tr>
<tr>
<td>COM426 Computer Animation</td>
<td>3-0</td>
<td>3 cr. An introduction to 2-D effects on Alias software. Prerequisites: Senior standing and instructor’s consent.</td>
</tr>
<tr>
<td>COM427 Corporate Video/Film Production</td>
<td>3-0</td>
<td>3 cr. Theory and production practices in creating and producing video/film documentary programs for use in business, industry, government and education.</td>
</tr>
<tr>
<td>COM431 Advanced Reporting, Editing and Production</td>
<td>3-0</td>
<td>3 cr. Advanced reporting techniques on politics, business and economic news, investigative journalism, source digging and research skills, copy and wire editing, editorial judgement, deadline writing, production, layout and design. Prerequisite: COM214 News Writing &amp; Reporting and COM327 Journalism Workshop.</td>
</tr>
<tr>
<td>COM442 Play Production II</td>
<td>3-0</td>
<td>3 cr. A study of the structure of the three-act play. Presentation of a full-length play. Prerequisite: COM342 Play Production I.</td>
</tr>
<tr>
<td>COM499 Internship/Senior Study</td>
<td>3-0</td>
<td>3 cr. Professional communication work in an off-campus setting appropriate to the student’s emphasis program, providing experience not available in the curriculum. Students may work for print or broadcast (radio/TV) media as well as in the theater or in film. A student must produce a senior study research paper under his/her instructor’s supervision based on the work experience and maintain a log of activities at his/her employer’s. Prerequisite: Senior standing, approval of instructor.</td>
</tr>
</tbody>
</table>

**COMPARATIVE LITERATURE (Core Curriculum)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLT801 Methodologies of Comparative Literature</td>
<td>3cr.</td>
<td>Introduces fundamental concepts and approaches of comparative practice. Its objective is to expose students to key debates in literary and cultural studies today and to provide an overview of some methods currently used in the profession.</td>
</tr>
<tr>
<td>CLT803 Literary Theory I</td>
<td>3cr.</td>
<td>Includes study of theories of literature and representation from classical Greece and Rome, the Medieval Mediterranean and the European Renaissance. It is organized according to major questions that have traditionally generated debate and that continue to resonate in contemporary literary and cultural studies.</td>
</tr>
</tbody>
</table>
CLT804 Literary Theory II | 3 cr. Examines theories of literature and representation from the Enlightenment to post-structuralism. The course is designed to provide an intellectual background for current theoretical debates in the profession.

CLT840 Genre | 3 cr. Explores the fundamental critical concepts relating to genre through the close attention to primary texts supplemented with theoretical readings. Rather than attempting to provide a synoptic view of the range of generic forms, the course is conceived with a priority on flexibility so as to respond to the needs and interests of the instructor and students alike.

CLT820 Periods | 3 cr. Explores the fundamental critical concepts relating to period through the close attention to primary texts supplemented with theoretical readings. The aim of the course is to kindle awareness and interests in the historicity of literature.

CLT830 Themes | 3 cr. Explores particular themes through the close attention to primary texts supplemented with theoretical readings. A broadly construed course, “Themes” is flexibly designed to allow the instructor and students an opportunity to explore in some depth thematic interests.

CLT880 Graduate Seminar in Comparative Literature | 3 cr. Examines selected topics in comparative literature. Repeated for up to nine credits, if course content is different.

CLT899 Thesis | 3 cr. Consists of a 40-50 page comparative study written in consultation with the student’s M.A faculty committee.

COMPARATIVE LITERATURE (Translation Option)

ENG532 Translation Workshop | 3 cr. Gives students practical experience in the art and craft of translation, primarily focusing on the translation of literary works—prose and poetry.

CLT609 History and Theory of Translation | 3 cr. The aim of this course is to give students a historical overview of theories and approaches to translation. Translation is studied within the larger comparative/world literature context, providing a window onto both the art of translation and the influence of translators and translated works on the development of world literature.

CLT610 Topics in Translation Studies | 3 cr. Exposes students to the growing field of translation studies by focusing on a specific topic or literary work within the field.

COMPUTER SCIENCE (Undergraduate)

CSC201 Computer Literacy | 1-0 | 1 cr. The course is required of all students who, otherwise, are not required to take any computer science course. The topics covered include: introduction to computer hardware and software, basic operation of a computer system, data processing, introduction to programming languages, and computer applications.

CSC215 Computer Programming 1 | 3-0 | 3 cr. A first course in programming for computer majors. Topics include: hardware and software components: basic data types, arrays, records, files, user-defined types, control structures, functions, introduction to recursion, introduction to searching, and sorting algorithms. Structured programming and design by stepwise refinements, programming projects in a high level language. Prerequisites: MTH101 Calculus I or MTH111 Basic Mathematics.


CSC315 File Processing | 3-0 | 3 cr. Language essentials for file processing. File structures, access methods, processing algorithms; I/O devices; sequential files, indexed and tree structured files (B-Trees), Hashed files. Use of a high level language in the design and implementation process. Prerequisite: CSC216 Computer Programming II.

CSC316 Software Engineering | 3-0 | 3 cr. Different phases of large-scale software development with emphasis on analysis, design, and documentation. Topics include: preliminary investigation, analysis methods, and modeling tools. Design of files and databases, user interface, program design, testing, and project management. Students work in groups on realistic projects to apply covered techniques. Case tools are studied and used. Prerequisite: CSC216 Computer Programming II. Co-requisite: CSC315 File Processing.


CSC333 Database Systems | 3-0 | 3 cr. Data modeling; logical design of relational database systems; data definition and data manipulation languages; relational algebra and calculus; introduction to SQL; graphically oriented query languages. Also this course introduces normalization theory; object oriented databases; client/server databases; concurrency control; recovery; query processing; security and integrity. Prerequisite: CSC315 File Processing.

CSC401 Computer Internship | 1-0 | 1 cr. Supervised work experience in Computer Science. Prerequisites: CSC316 Software Engineering and CSC321 Data Structures & Algorithms.

CSC410 Operations Research | 3-0 | 3 cr. Deterministic and probabilistic models. Linear programming, simplex method, dual problem and sensitivity analysis, transportation problem, game theory, queuing theory, inventory models and simulation. Prerequisite: CSC216 Computer Programming II.

CSC415 Operating Systems | 3-0 | 3 cr. Design and implementation of operating systems. Topics include process management, process synchronization and interprocess communication, process scheduling, deadlock prevention and detection, memory management, virtual memory, disk management, file systems, security, and protection. Case study of the UNIX operating system. Prerequisite: CSC218 Microcomputer Organization.
CSC421 Object Oriented Programming | 3-0 | 3 cr. Object oriented concepts and techniques for analysis, design, and implementation. Topics include encapsulation, abstract data types, polymorphism, reusability, objects: static, dynamics and interaction; classes, relationships, and instances; object oriented languages and implementation. Prerequisites: CSC321 Data Structures and Algorithms and CSC316 Software Engineering.

CSC423 Programming Languages | 3-0 | 3 cr. Programming languages design issues and programming paradigms. Binding and scoping, parameter passing, lambda abstraction, data abstraction, type checking. Functional and logic programming. Practical experience is gained in a number of representative languages. Prerequisite: CSC321 Data Structures & Algorithms or concurrently.

CSC424 Computer Architecture | 3-0 | 3 cr. Design abstraction levels, instruction set design, data path design, control unit design (microprogrammed and hardwired), memory hierarchy. Introduction to VLSI design. Course includes design and simulation of an RTL implementation of an instruction set architecture using a hardware description language. Prerequisites: CSC325 Logic Design of Digital Systems.

CSC426 Computer Networks | 3-0 | 3 cr. Fundamental principles in computer networks are applied to obtain practical experience and skills necessary for designing and implementing computer networks, protocols, and network applications. Various network design techniques, simulation techniques, and UNIX network programming are covered. Prerequisite: CSC415 Operating Systems.

CSC427 Systems Programming | 3-0 | 3 cr. An introduction to system software used at the different levels in a computing system. Design and implementation of system software: assemblers, linkers, loaders, editors, interpreters, and compilers. System call interface in UNIX. Prerequisites: CSC321 Data Structures and Algorithms, CSC415 Operating Systems.

CSC428 Artificial Intelligence | 3-0 | 3 cr. Algorithms and knowledge structures for varied application areas such as natural language processing, expert systems, game playing, machine vision, and automatic programming. Prerequisite: CSC321 Data Structures & Algorithms.

CSC488 Topics in Computer Science | 3-0 | 3 cr. Selected topics in Computer Science. May be taken more than once.

CSC499 Computer Science Senior Study | 2 cr. Students apply software engineering methodology to develop a major project. Students are expected to make a formal presentation of their projects. Prerequisites: CSC316 Software Engineering, CSC321 Data Structures and Algorithms, and CSC333 Database Systems.

COMPUTER SCIENCE (Graduate)

CSC822 Compilers | 3-0 | 3 cr. Design and implementation of compilers of high-level languages. Topics include lexical and syntactic analysis, parsing techniques, symbol table management, code generation and optimization, run time system design, implementation issues related to programming language design. A programming project is required.

CSC824 Advanced Database Systems | 3-0 | 3 cr. Classical theory of relational databases. Up-to-date coverage of the most active research in database theory, including the expressive power and complexity of query languages, and deductive and object-oriented databases.

CSC826 Distributed Operating Systems | 3-0 | 3 cr. Concepts and techniques of modern and distributed operating systems. Topics include: advanced techniques in uniprocessor systems; communication and synchronization in distributed systems; distributed file systems; processes and processor allocation in distributed systems.
CSC828 **Knowledge-Based and Expert Systems** | 3-0 | 3 cr. Knowledge representation. Search techniques. Logical reasoning. Language understanding. Introduction to the methodology of design and implementation of expert systems. Emphasis on techniques for representing and organizing domain and control knowledge as opposed to the theory and implementation of inference engines.

CSC831 **Advanced Computer Networks** | 3-0 | 3 cr. Introduction to the techniques for design and analysis of computer networks. Layered network architecture. Communication media and hardware. Local area network (LAN) topologies and access protocols. Flow and congestion control. Client/server model and networks programming using sockets. Requires a project.

CSC833 **High Performance Computer Architecture** | 3-0 | 3 cr. Concepts and examples of advanced computer systems, especially scaleable parallel computers. Topics include: memory-system design; advanced processor design techniques; pipelined, vector, shared-memory, and distributed-memory computer systems; parallel algorithms; software and architectural issues for efficient parallel processing.

CSC835 **VLSI Design Automation** | 3-0 | 3 cr. Algorithms and methodologies for the synthesis, analysis, and verification of digital systems. Silicon compilation. High level synthesis, logic synthesis, and layout synthesis. Hardware Description Language and their use in the synthesis process. Fault simulation and coverage analysis. Extensive use of electronic design automation tools. Requires a project.

CSC841 **Design and Analysis of Algorithms** | 3-0 | 3 cr. Time and space complexity of algorithms. Models of computation, techniques for efficient algorithm design, effect of data structure choice on efficiency of an algorithm. Divide and conquer techniques, greedy methods, dynamic programming, amortized analysis, graph and network algorithms. Theory of NP-completeness. Selected advanced algorithms.


CSC849 **Optimization Methods** | 3-0 | 3 cr. Mathematical optimization techniques. Topics include: Linear programming, Simplex algorithm, revised- and dual-Simplex algorithms; integer programming, combinatorial optimization, cutting-plane methods; network analysis; nonlinear optimization. Prerequisite: MTH301 Linear Algebra.

CSC851 **Advanced Software Engineering** | 3-0 | 3 cr. Techniques for the construction of reliable and cost-effective large-scale software. Topics include: process models; requirements analysis and specification; design methods and principles; testing methodologies; software maintenance; software metrics; software management and quality. Students will explore in depth current research work on a topic of their choice.

CSC853 **Object-Oriented Software Development** | 3-0 | 3 cr. Techniques and issues for the different phases of object-oriented software development. Topics include: foundations of object-oriented modeling, abstract data types, polymorphism; analysis, object statics and dynamics; design; programming constructs, object-oriented languages and systems; testing and software engineering perspectives; application frameworks.

CSC888 Topics in Computer Science | 3-0 | 3 cr. Selected topics in computer science. Subtitle required. May be repeated for credits more than once.

CSC898 Project | 3-0 | 3 cr. Development of a substantial software system. Complete and professional documentation is required, including verification and performance analysis.

CSC899 Thesis | 6 cr. Independent investigation of a topic of interest with some degree of originality.

CULTURAL STUDIES

CST201 Cultural Studies I | 3-0 | 3 cr. Traces the major developments in the global human experience from the birth of civilization through the Middle Ages. Source material is provided by the humanities, the fine arts, the social sciences and the natural sciences, and is organized thematically around key topics.

CST202 Cultural Studies II | 3-0 | 3 cr. Traces the major developments in the global human experience from the 14th through the 18th centuries. Source material is provided by the humanities, the fine arts, the social sciences and the natural sciences, and is organized thematically around key topics.

CST301 Cultural Studies III | 3-0 | 3 cr. Traces the major developments in the global human experience during the 19th and 20th centuries. Source material is provided by the humanities, the fine arts, the social sciences and the natural sciences, and is organized thematically around key topics.

EDUCATION (Undergraduate)

EDU201 Fundamentals of Education | 3-0 | 3 cr. An introduction to the teaching profession providing a comprehensive examination of the historical, philosophical, and social foundations of education as well as significant contemporary educational issues.

EDU202 Observation and Curriculum | 1-2 | 3 cr. The integration of the study of curriculum development in early childhood and elementary school settings with field experiences. Emphasis is on strategies and techniques for observing and recording behavior in elementary and early childhood settings where the student teacher spends 60 semester hours.

EDU205 Safety and Health | 3-0 | 3 cr. A review of health/safety practices recommended for childcare, including information on common diseases, health problems, and safety issues.

EDU211 Mathematics for Elementary Teachers | 3-0 | 3 cr. Comprehensive review of the mathematics needed by teachers, and the mathematics taught at the elementary level (grades 1 through 6). Insightful understanding of mathematical concepts, nature and stages of development of mathematical knowledge, impact of new technologies (calculators and computers) on the elementary mathematics curricula, critical thinking and problem solving strategies, etc., with emphasis on the new topics in the elementary mathematics curricula. Co-requisite: MTH111 Basic Mathematics.

EDU212 Science for Elementary Teachers | 3-0 | 3 cr. Comprehensive review of the sciences taught at the elementary level (grades 1 through 6). Insightful understanding of scientific concepts, the learning cycle of develop-
ment of scientific knowledge, scientific method of investigation and inquiry, experimentation and laboratory skills, critical thinking and problem solving strategies, etc., with emphasis on the new topics in elementary science curricula.

EDU301 School Counseling | 3-0 | 3 cr. A study of the principles of the theory and practice of guidance and counseling. Emphasis is on intervention techniques that assist educators in dealing with a range of educational and vocational issues and concerns at school.

EDU303 Language Arts | 3-0 | 3 cr. A training course designed to give students practice in the effective use of classroom English and extend their language teaching skills and techniques, with special emphasis on the Communicative approach.

EDU305 Applied Phonology | 3-0 | 3 cr. Deals with phonetics and phonemics, phonological analysis including segmental (consonant and vowel) as well as supra-segmental—stress, intonations, juncture, pause, and rhythm—features, comparative analysis, and native language interference in second language learning. Includes examples from a wide variety of languages with special emphasis on the sound systems of English and Arabic. Develops basic skills in comparative phonological analysis. Prerequisite: EDU231 Introduction to Linguistic Science.

EDU310 Computers in Education This course is designed to provide prospective teachers with broad knowledge and practical activities on the various instructional applications of computers. Topics include general knowledge about computers and their educational uses. Simple computer programming as means to enhance students’ higher-order thinking. Evaluation, selection, and integration of educational software in teaching and learning various subjects. Use of the Web resources in teaching and learning. Overview of the new Lebanese Informatics curriculum. Computer as a management tool.

EDU311 The Teaching of Arabic as a Foreign Language | 3-0 | 3 cr. A study of the problems and methods of teaching Arabic as a foreign language based on the findings of modern linguistic science. The course deals with all aspects of Arabic teaching (pronunciation, vocabulary, grammar, reading, writing and testing). It handles curricular matters and prepares students for their practice teaching experience. Prerequisite: EDU231 Introduction to Linguistic Science, or consent of instructor.

EDU312 The Teaching of English as a Foreign Language | 3-0 | 3 cr. A study of the methods and principles of teaching English as a foreign language based on the findings of modern linguistics. The course deals with all aspects of English teaching: basic language skills, sub skills, literature and cultural orientation. Prerequisite: ENG213 Introduction to Language.

EDU313 The Teaching of Science and Mathematics (Elementary) | 3-0 | 3 cr. A study of methods and materials used in science and arithmetic in elementary education. Prerequisite: EDU201 Fundamentals of Education or consent of instructor.

EDU314 The Teaching of Social Studies | 3-0 | 3 cr. This course is designed to equip students with the knowledge and tools necessary to teach social studies across all grade levels. These competencies include planning, implementing, and evaluating the social studies curriculum, in addition to content and process skills. Special emphasis is given to values and character education to reflect the objectives set forth by the new Lebanese curriculum.

EDU316 The Teaching of Science in Secondary Schools | 3-0 | 3 cr. A study of objectives, problems and procedures appropriate for the secondary school with emphasis on preparing plans, use of demonstrations, experiments, science curriculum projects and reference materials. Prerequisites: EDU201 Fundamentals of Education and junior standing.

EDU319 Teaching Reading | 3-0 | 3 cr. A study of modern trends and issues in the teaching of reading as applied to English with emphasis on practical work to acquaint students with the processes of reading and improve their competency in these skills.

EDU321 Children’s Literature | 3-0 | 3 cr. An exploration of the various types of children’s literature. It aims at developing critical analysis of the purposes, strategies for teaching and evaluation of literature for children.

EDU331 Educational Technology | 3-0 | 3 cr. A study of interrelated uses of instructional materials and techniques in education at both the primary and secondary levels. The course is designed to prepare prospective teachers to serve society in the present technological era.

EDU332 Educational Measurement | 3-0 | 3 cr. A critical examination of the basic principles and techniques of testing and evaluation in the total education process and the use of modern software for basic statistical techniques needed for the analysis of tests. The focus is on the preparation, use, and analysis of various school tests.

EDU414 Methods and Materials in ECE | 3-0 | 3 cr. An examination of the processes of planning appropriate learning environment, materials and experiences that meet the developmental needs of students or groups of children in a classroom setting.

EDU419 Internship | 1-2 | 3 cr. A lab field experience course introducing concept problems and skills common to prospective teachers. Students spend 60 semester hours assisting the cooperating teacher in classroom activities, including supervising and monitoring class work, assisting in classroom management, substitute teaching and preparing various educational materials in their area of emphasis.

EDU420 Practice Teaching-Early Childhood Education | 1-2 | 3 cr. A field-based practicum in which schools serve as laboratories for student teachers to gradually assume the obligations of the classroom teacher. Continuous evaluation is provided by the supervisor and cooperating teacher to enhance the student teacher’s professional growth. It requires a minimum of 40 hours of practice in the area of emphasis.

EDU421 Practice Teaching-Elementary Education: Language, Arts and Social Studies | 1-2 | 3 cr. A field-based practicum in which schools serve as laboratories for student teachers to gradually assume the obligations of the classroom teacher. Continuous evaluation is provided by the supervisor and cooperating teacher to enhance the student teacher’s professional growth. It requires a minimum of 40 hours of practice in the area of emphasis.

EDU422 Practice Teaching, Elementary Math and Science | 1-2 | 3 cr. A field-based practicum in which schools serve as laboratories for student teachers to gradually assume the obligations of the classroom teacher. Continuous evaluation is provided by the supervisor and cooperating teacher to enhance the student teacher’s professional growth. It requires a minimum of 40 hours of practice in the area of emphasis.

EDU425 Practice Teaching-Secondary Math Education | 1-2 | 3 cr. Thirty hours of practice teaching at the intermediate and secondary levels preceded by 10 hours of observation in the class or classes to be taught. Includes one seminar per week and conference periods with supervisors. Prerequisites: one methods course and senior standing.

EDU426 Practice Teaching-Secondary Science Education | 1-2 | 3 cr. Thirty hours of practice teaching at the intermediate and secondary levels preceded by 10 hours of observation in the class or classes to be taught. Includes
one seminar per week and conference periods with supervisors. Prerequisites: one methods course and senior standing.

**EDU427 Practice Teaching-Secondary English Education** 1-2 | 3 cr. Thirty hours of practice teaching at the intermediate and secondary levels preceded by 10 hours of observation in the class or classes to be taught. Includes one seminar per week and conference periods with supervisors. Prerequisites: one methods course and senior standing.

**EDU499 Senior Study** | 1-2 | 3 cr. Independent scholarly work on a topic chosen by the student and related to his/her emphasis of study.

**EDUCATION (Graduate)**

**EDU802 Curriculum Design (core)** The aim of the course is to review the history of curriculum development, analyze current curricular issues – namely the effects of new technological advancement on curricula – and develop a comprehensive curriculum design. Students will learn to critically evaluate curricula in terms of structural elements, tools, and assumptions regarding subject matter and learning.

**EDU803 Methods of Educational Research (core)** This course develops the essential concepts and skills of quantitative and qualitative research, aiming at addressing educational issues. It is intended to provide a structured, supportive hands-on environment for learning these skills, and it involves setting up a research project for a small-scale study. Automated data acquisition and analysis tools will be emphasized. The course also enables students to critically interpret and evaluate research by analyzing various research methods used in educational publications.

**EDU805 Educational Technology (core)** This course focuses on the theoretical bases of the design and production of teaching and learning materials, using various technologies and stressing on the ICT tools. Students will experience the changes in educational settings fostered by these tools (Internet, distance learning, video conferencing, etc.). Communication theory and research are combined with design principles to guide students in creating audiovisual materials for teaching. Educational websites will be among the main resources used for that purpose. Computer languages that are now part of the new Lebanese curricula will be envisaged (Logo, Visual Basic,…), as well as hands-on experiences related to the tools which make part of the new technology subject. The course will culminate in implementing and evaluating multimedia technologies in educational settings.

**EDU806 Advanced Educational Psychology (core)** This course is designed to aid the educators in predicting, understanding, and controlling the fundamental principles of learning and human development as they apply in educational settings. It also provides an in-depth overview of the theoretical frameworks of developmental theorists. The course critically examines research in human development and psychology and its implications to schooling, learning processes, teaching techniques, and other educational issues.

**EDU812 Literacies Across the Curriculum (elective)** This course examines contemporary theories of teaching, classroom practices of literacy processes, and authentic literacy assessment methodology. Students will be involved in examining a diverse range of views regarding literacy and literacy education and in constructing a coherent conceptual basis for their own practice as literacy educators in school contexts.

**EDU814 Comparative Education (elective)** The course examines education as a social institution that reflects and influences social, economic, and political life nationally and globally. It offers a framework of analysis and comparison of educational systems by examining issues of access, equity, quality, and efficiency.

**EDU822 Trends and Issues in Math Education (Math Education Specialist)** The aim of this course is the discussion of issues related to the development of school mathematics curricula, as to their relationship to the nature of math, its philosophical, epistemological, societal, and cognitive bases. It includes research review, study, and critical evaluation of math curricula and insight in recent developments in math.
EDU823 Technology in Math Education (Math Education Specialist) This course examines the effects of new technologies on school mathematics and its teaching. It addresses issues related to the use of technology in the math class and includes review of research, as well as laboratory sessions for practical work. The aim is not simply training on using software for teaching math (even though it's part of the course), but it is also about redesigning the whole teaching of math and the whole math curricula accordingly. Students will design and implement math teaching/learning materials using technology with special attention to calculators, graphing calculators, Math Education Web sites, and computer software.

EDU832 Leading and Managing Schools/Educational Institutions (Educational Management Specialist) The major topics in this course are: leadership, decision making, responding to the external community environment, mission and values. Students will also develop experience in managing the curriculum, reviewing/assessing student learning, managing and allocating resources.

EDU833 Leading Effective Educational Development (Educational Management Specialist) This course leads students through issues such as bringing change, culture and ethos, evaluation/inspection, induction, appraisal. Using action research, learners will develop experiences in managing staff development, supporting students' learning, classroom observation, managing teams, planning, meeting community and parent needs, developing professional identity.

EDU853 Sociolinguistics and Social Context of Language (TESOL Specialist) The aim of this course is to introduce learners to the field of sociolinguistics. It will look at the importance of context in language use across issues such as social identity, gender, social class and ethnicity. It will also consider how the language planning and policy literature can contribute to issues of multilingualism and program design.

EDU852 Trends and Issues in TESOL (TESOL Specialist) This course will cover major theoretical and research developments in the learning of other languages. It will investigate the relevance and application of this work in the language classroom. Modern tools for language teaching and learning will be an essential part of the course (Web sites, Internet search, language lab facilities, etc.)

EDU843 Pedagogy in Early and Middle Childhood Education (Early and Middle Childhood Education Specialist) This course examines the theoretical foundation of teaching styles and also concentrates on planning and developing teaching strategies that reflect these styles. Theory and research on teaching including teachers' thought processes, students' thought processes, effective teacher behavior, and classroom organizations are reviewed critically.

EDU852 Trends and Issues in Early and Middle Childhood Education (Early and Middle Childhood Education Specialist) This course provides an extensive study of the development and changes taking place in the field of elementary education. It also involves assessing the strengths and weaknesses of existing programs. Topics may include recent developments in education thought such as interdisciplinary, integration, global education, teaching models, problems among others.

EDU863 Technology in Science Education (Science Education Specialist) The course provides students with an introduction to technology concepts and are shown how to find technology appropriate to solving educational problems in science education and how to evaluate technology. Among the technologies that may be examined are computer-assisted instruction (CAI), scientific and graphic calculators, CD ROM, multimedia, laboratory probeware, simulations, and the Internet.

EDU862 Trends and Issues in Science Education (Science Education Specialist) The course emphasizes the importance of science education and its contribution to the needs of students in a modern society. The course provides an overview and analysis of the recent issues and trends in science education reform. Topics include elements
of history of science education, minimum requirements for a science literate citizen, theories of science education, and how to evaluate methods, materials, curriculum or reform projects in science education.

**EDU888 Topics in Education (elective) | 3 cr.** Deals with current issues and concerns in education. Alternatively taught by various faculty to cover a wide range of specialty areas.

**EDU898 Project | 3 cr.**

**EDU899 Thesis | 6 cr.** Independent investigation of a topic of interest with some degree of originality.

---

**ENGLISH (Intensive)**

**ENG001 Intensive English 1 | 12-2 | 0 cr.** A non-credit elementary level English course aimed at providing basic skills in speaking, listening, reading and writing. Emphasis is placed on mechanical skills and correct sentence structure. An integrated approach is used in teaching all skills with laboratory support. Prerequisite EEE 350-399 or equivalent

- To pass from ENG001 to ENG002: A minimum grade of D is required or an EEE score between 400-449 or equivalent.
- To pass from ENG001 to ENG003: A minimum grade of C is required or an EEE score between 450-499 is required.
- To pass from ENG001 to ENG009: A minimum grade of B is required and a minimum grade of C on the Intensive English Comprehensive Exam or a minimum EEE score of 500 or its equivalent.

**ENG002 Intensive English II | 12-2 | 0 cr.** A non-credit intermediate level English course aimed at consolidating previously learned skills and expanding into new areas using controlled texts, programmed materials and situational activities. Emphasis is placed on speaking, listening, reading and writing according to an integrated content-based approach with laboratory support. Prerequisite EEE 400-449 or equivalent.

- To pass from ENG002 to ENG003: A minimum grade of D is required or an EEE score between 450-499 or its equivalent.
- To pass from ENG002 to ENG009: A minimum grade of D is required and a minimum grade of C on the Intensive English Comprehensive Exam or a minimum EEE score of 500 or its equivalent.

**ENG003 Intensive English III | 12-2 | 0 cr.** A non-credit advanced level English course aimed at bridging the gap between Intensive English and English 009 academic English proficiency. Emphasis is placed on listening, speaking, reading and writing according to an integrated content-based approach with laboratory support. Prerequisite EEE 450-499 or equivalent.

- To pass from ENG003 to ENG009: A minimum grade of C is required or a minimum grade of C on the Intensive English Comprehensive Exam or a minimum EEE score of 500 or its equivalent.

**Note:**

1. Students registered in Intensive English II and III may also register for one or two university courses (a maximum of 3-4 credits) that require minimal English as specified by the Intensive English Program and upon the consent of the Intensive English advisor and the student's advisor in the major.

2. Students who pass from Intensive English into university English are placed in the university English courses according to their EEE scores or equivalent. Intensive English students who have passed LAU Intensive English and do not have an EEE or equivalent score before entering the university will be placed into ENG009.
ENGLISH (General University Requirements)

ENG009 Remedial English | 3-0 | 0 cr. A course designed to develop effective reading and writing skills. Emphasis is placed on the paragraph and the essay formats. Basic grammar and mechanical skills are revisited. Laboratory sessions reinforce listening, speaking and study skills. Academic style and task-based work are stressed. Co-requisite: INF201 Learning Resources Techniques. Prerequisite: EEE score 500-549 or equivalent.

ENG101 English I | 3-0 | 3 cr. A course designed to reinforce effective and critical reading and writing skills with emphasis on summarizing, paraphrasing, citing sources, and study skills. Academic style and task-based work are focused on throughout. Prerequisite: ENG009 or EEE score between 550 and 599 or its equivalent.

ENG102 English II | 3-0 | 3 cr. A course designed to develop advanced reading and writing skills associated with academic work. Emphasis is on analytical and critical reading of texts as well as on writing in a variety of modes. Students develop a research paper, learn to formulate researchable questions; locate appropriate resources in the library, the community and the electronic media; organize their findings; develop the manuscript and cite the sources following academic conventions. Prerequisite: ENG101 or EEE score between 600-649 or its equivalent.

ENG201 Fundamentals of Oral Communication | 3-0 | 3 cr. A course on the fundamentals of oral communication along with practice in platform speaking in exposition and persuasion. Emphasis is placed on the use of correct and effective language and organizational skills in preparing, delivering, and evaluating different types of oral presentations. Prerequisite: ENG102 or EEE score 650 and above or its equivalent.

ENG202 Sophomore Rhetoric | 3-0 | 3 cr. A course for practice in reading and writing, both formal and creative; in critical analysis, evaluation, formulation and presentation of verbal and written opinions based on the best possible evidence; and in the methods of formal argumentation.

ENGLISH (Major)

ENG211 Survey of English Literature I | 3-0 | 3 cr. A survey, with selected readings, of English literature from its beginnings through the mid-17th century. Prerequisite: ENG102 English II.

ENG212 Survey of English Literature II | 3-0 | 3 cr. A survey, with selected readings, of English literature from the Restoration period through the present. Prerequisite: ENG102 English II.

ENG213 Introduction to Language | 3-0 | 3 cr. A survey of the theoretical bases of language study emphasizing theories of language origins and development. Topics include semantics, syntax, pragmatics, writing systems, dialects, phonology, and the contrast between communication, true language, and artificial language.

ENG214 Modern English Grammar | 3-0 | 3 cr. A study of the teaching of grammar in relation to current developments in theoretical, pedagogic, and descriptive grammars. Major grammatical structures will be considered and selected teaching methods and materials for teaching grammar will be examined.

ENG311 Literature & Society | 3-0 | 3 cr. Study of literature as a vehicle for the artistic expression of ideas in any field of human interest. Includes the study of literature created in interaction with the other arts, disciplines and sciences, or in relation to specific historical, social or cultural situations. Prerequisite: ENG102 English II.

ENG312 Poetry | 3-0 | 3 cr. Critical study of poetry in English, including techniques of analysis and the problems of interpretation. Prerequisite: ENG102 English II.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG313</td>
<td>Forms &amp; Modes</td>
<td>3-0</td>
<td>In-depth study of the nature and substance of a specific literary form or mode, such as satire, romance, (auto) biography, the gothic, the essay, literature of resistance, etc. Repeatable for credit by English majors if course content is different. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG314</td>
<td>Shakespeare</td>
<td>3-0</td>
<td>Critical study of selected works by Shakespeare. Can include the sonnets, the long poems, and any of the plays. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG315</td>
<td>The 20th-Century English &amp; American Novel</td>
<td>3-0</td>
<td>Critical study of selected novels written in 20th-century Britain and North America. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG316</td>
<td>Periods in English Literature</td>
<td>3-0</td>
<td>Critical study of selected texts from specific, well-defined periods in English literature. Repeatable for credit by English majors if course content is different. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG317</td>
<td>The Novel Before the 20th Century</td>
<td>3-0</td>
<td>Critical study of the development of the novel in English, from its beginning in the 17th Century until the modern period. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG318</td>
<td>Drama</td>
<td>3-0</td>
<td>Critical study of the dramatic tradition in English literature from a literary point of view. Includes consideration of the history of drama and its functions in society, and of the problems of genre classification. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG319</td>
<td>History of the English Language</td>
<td>3-0</td>
<td>A study of the history and development of the English language from its origins to the present, including the historical context of the development of the language; the changes in phonology, grammar, and vocabulary from Old to Middle to Modern English; the history and diversity of English dialects; and the role of English today as a world language.</td>
</tr>
<tr>
<td>ENG320</td>
<td>Reading</td>
<td>3-0</td>
<td>A study of modern trends and issues in the teaching of reading as applied to English with emphasis on practical work to acquaint students with the processes of reading and improve their competencies in these skills.</td>
</tr>
<tr>
<td>ENG321</td>
<td>Creative Writing</td>
<td>3-0</td>
<td>Students are trained to write in several genres such as fiction, poetry, and articles. Creativity, criticism, and revision are emphasized. Prerequisite: ENG102 English II.</td>
</tr>
<tr>
<td>ENG322</td>
<td>Principles of Translation</td>
<td>3-0</td>
<td>This course presents the principles of translation and trains students to translate from English into Arabic and vice versa. Prerequisites: ARA201 Appreciation of Arabic Literature and ENG102 English II.</td>
</tr>
<tr>
<td>ENG332</td>
<td>Advanced Translation</td>
<td>3-0</td>
<td>An advanced course that trains students to translate (from English into Arabic and vice versa) texts from various disciplines with special emphasis on literature. Prerequisite: ENG322 Principles of Translation.</td>
</tr>
<tr>
<td>ENG499</td>
<td>Senior Study</td>
<td>3-0</td>
<td>An in-depth, individual project involving personal research under close faculty supervision, culminating in a substantial critical paper on a subject relevant to English literature. Prerequisites: senior standing and consent of instructor.</td>
</tr>
</tbody>
</table>

**FINE ARTS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART101</td>
<td>Introduction to Music and Art</td>
<td>3-0</td>
<td>A course in music and art appreciation introducing students to techniques, outstanding examples, and representative works of the various periods, with a look at the interrelationship between them.</td>
</tr>
</tbody>
</table>
ART201 Fundamentals of Design I (2-D) | 0-6 | 3 cr. A studio course investigating the basic elements and principles of the visual arts in two-dimensional media and form.

ART202 Fundamentals of Design II (3-D) | 0-6 | 3 cr. A studio course investigating the basic elements and principles of the visual arts in three-dimensional media and form. Prerequisite: ART201 Fundamentals of Design I (2-D) or consent of instructor.

ART211 Ceramics I | 0-4 | 3 cr. An introductory course to the primary techniques of hand-made pottery, its maintenance and finish. Understanding, preparation, and maintenance of clay through its various stages, the relation of design, functional and otherwise, to the medium.

ART212 Ceramics II | 0-4 | 3 cr. A focus on wheel-made pottery, stressing the relation of good functional design to useful wheel-made objects, by offering basic shapes of such pottery.

ART221 Drawing I | 0-6 | 3 cr. A study of basic drawing techniques in various media with regard to landscape, still life and the human figure.

ART222 Drawing II | 0-6 | 3 cr. Concentrated study of the human figure, emphasizing analysis and the synthesis of visual experience.

ART223 Perspective Drawing | 1 cr. A practical studio course which investigates and applies the laws of linear perspective in the rendering of three-dimensional objects and scenes on two-dimensional surfaces. To be taken concurrently with ART221 Drawing I.

ART331 History of Art I | 3-0 | 3 cr. A survey of visual art in the ancient Oriental, Classical and Medieval periods.

ART332 History of Art II | 3-0 | 3 cr. A survey of visual art in the Renaissance, Baroque and Modern periods. Prerequisite: ART331 History of Art I.

ART333 Art Education | 1-4 | 3 cr. A survey of principles, materials, techniques, and resources for teaching art to children. Emphasis is on the extensive variety of art media suitable for young children such as clay, paint, collage, and drawing.

ART334 Graphics | 0-6 | 3 cr. A studio course investigating the basic printing processes of intaglio, planography and relief. Prerequisite: ART201 Fundamentals of Design I (2-D) or ART221 Drawing I.

ART335 Islamic Art of the Middle East | 3-0 | 3 cr. A course designed to stimulate a deeper understanding of Islamic Art of the Middle East by unfolding its cultural origins.

ART341 Painting I | 0-6 | 3 cr. Introduction to painting procedure. The course includes detailed studies from still life, landscape and the human figure. Prerequisites: ART201 Fundamentals of Design I (2-D), ART221 Drawing I, or consent of instructor.

ART342 Painting II | 0-6 | 3 cr. A studio course that looks into a variety of approaches to space interpretation on a two dimensional plane. Prerequisite: ART341 Painting I or consent of instructor.

ART351 Sculpture I | 0-6 | 3 cr. A course facilitating the realization of three-dimensional form by modeling, carving and casting meaningful subjects. Prerequisites: ART202 Fundamentals of Design II (3-D), ART221 Drawing I or ART222 Drawing II.

ART352 Sculpture II | 0-6 | 3 cr. An advanced course that provides for greater proficiency in creation of three-dimensional form. Special emphasis on the production of free standing and relief sculpture for specific sites. Prerequisite: ART351 Sculpture I.
ART431 Modern Art | 3-0 | 3 cr. A comprehensive examination of stylistic developments in visual art from the advent of Impressionism to the present.

ART441 Painting III | 0-6 | 3 cr. A studio course developing in students a greater awareness of the elements of art’s expressive potential in the creation of various moods. Prerequisite: ART342 Painting II or consent of instructor.

ART442 Painting IV | 0-6 | 3 cr. A studio course developing skills in the use of various painting materials and techniques. A stepping stone to different media. Prerequisite: ART441 Painting III or consent of instructor.

ART499 Senior Study | 0-6 | 3 cr. A senior course providing for independent initiation and execution of art projects, allowing for greater depth and research in the development of a personal idiom.

**GRAPHIC DESIGN**

GRA201 Rendering and Studio Skills | 1-3 | 3 cr. An introductory level studio course on graphic design terminology, tools and work methods necessary for the completion of graphic design assignments. The ability to develop proper working habits and procedures in the solution and presentation of graphic design projects is emphasized. The tools introduced in this course include traditional hand-rendering techniques and electronic media. An introduction to Macintosh computer hardware and software includes the use of the Macintosh operating system and related work methods. Co-requisites: ART201 Fundamentals of Design I, ART221 Drawing I.

GRA202 Introduction to Computer Graphics | 1-3 | 3 cr. An introduction to computer graphics, the generation and manipulation of images and typography using digital media on Macintosh hardware and software. The course includes basic instruction in the Macintosh operating system, as well as Adobe Illustrator, Adobe Photoshop, and QuarkXpress, computer applications utilized in the field of graphic design (with emphasis on Adobe Illustrator). Prerequisites: ART201 Fundamentals of Design I, ART221 Drawing I, GRA201 Rendering and Studio Skills. Co-requisites: ART202 Fundamentals of Design II, ART222 Drawing II.

GRA212 Introduction to Typography | 1-3 | 3 cr. This studio course is an introduction to typography: the concepts, elements, principles and techniques of typography in graphic design. The student explores typography as a form of visual communication. Historic and contemporary applications are demonstrated. In executing their solutions, students will work in both traditional and digital media. Problems may address both two-dimensional and three-dimensional formats. Prerequisite: GRA201 Rendering and Studio Skills. Co-requisites: ART202 Fundamentals of Design II, ART222 Drawing II, GRA202 Introduction to Computer Graphics.

GRA301 Intermediate Computer Graphics | 1-3 | 3 cr. A continuation of instruction in computer graphics, the generation and manipulation of images and typography using digital media on Macintosh computer hardware and software. The course includes further instruction in Adobe Illustrator, Adobe Photoshop, QuarkXpress and other applications utilized in the field of graphic design, with an emphasis on Adobe Photoshop. Prerequisites: GRA202 Introduction to Computer Graphics, GRA212 Introduction to Typography.

GRA302 Advanced Computer Graphics | 1-3 | 3 cr. This course is a continuation of instruction in computer graphics. In-depth instruction on the generation and manipulation of images and typography using digital media on Macintosh computer hardware and software. The course includes further instruction in Adobe Photoshop, QuarkXpress and an introduction to Macromedia Director. Emphasis on QuarkXpress and computer techniques currently utilized in the field of graphic design. Prerequisite: GRA301 Intermediate Computer Graphics.

GRA312 Printing Variables | 2-2 | 3 cr. This course is an introduction to printing processes and the printing industry including: concepts, elements, principles, and techniques of printing; and basic experiences in the preparation

GRA341 Art of Calligraphy | 1-3 | 3 cr. This course is designed to train the student to respect and delight in the skills of calligraphy. Studio projects will include research into calligraphy’s historical use and its development into creative motive art forms. The use of a line to decorate, to symbolize a specific meaning, and to communicate a feeling, a thought or an attitude with superb control and infinite sensitivity. Prerequisites: ART202 Fundamentals of Design II, ART222 Drawing II, GRA201 Rendering and Studio Skills.

GRA342 Art of Illustration | 1-3 | 3 cr. This course is designed to give students a working knowledge of the tools and concepts involved in illustrative drawing and design. Students apply various techniques in this practical course including the study of the history of illustration, research and personal development towards the perfecting of original artwork for specific projects set by the instructor. Development of a personal style of illustration will be encouraged. Prerequisites: ART202 Fundamentals of Design II, ART222 Drawing II, GRA201 Rendering and Studio Skills, GRA202 Introduction to Computer Graphics.

GRA351 Graphic Design I | 1-3 | 3 cr. This course is an introduction to the visual elements, principles, problem solving methodology, and techniques of graphic design. Students develop a proficiency in the knowledge and application of the elements of design including color, typography, composition, and visual conventions for two-dimensional solutions. Study of methods to produce comprehensive layouts, including single- and multi-page layouts in two-dimensional space, for graphic design problems. Creative ideas are encouraged through research and practical applications. Printing processes are introduced. Prerequisites: ART202 Fundamentals of Design II, ART222 Drawing II, GRA201 Rendering and Studio Skills, GRA202 Introduction to Computer Graphics.

GRA352 Graphic Design II | 1-3 | 3 cr. This course is an introduction to the generation and solution of three-dimensional graphic design problems. It explores visual language, compositional principles, problem solving methodology and production in graphic design. The student is introduced to the dimensional requirements faced by those communicators who choose to work in the areas of three-dimensional design with an emphasis on package design. Projects may include a range of graphic design problems from the design of a package to the extension of companies’ identities into campaigns, promotions and exhibits. Prerequisites: GRA301 Intermediate Computer Graphics, GRA351 Graphic Design I. Co-requisite: GRA302 Advanced Computer Graphics.

GRA411 Advanced Typography | 1-3 | 3 cr. This studio course is a continuation of the applications of typography: an advanced exploration of typography as an expressive and functional vehicle. Students build upon the vocabulary they have already learned in GRA212 Introduction to Typography by mastering a series of typographic visual problems. Students are introduced to a variety of typographic models and techniques. Emphasis is placed upon the development of an understanding of typographic values, and the concurrent development of typographic design style. Students will analyze and develop relationships between image, typography, sequence, and hierarchy in the completion of graphic design projects for print and/or digital media. Prerequisites: GRA212 Introduction to Typography, GRA302 Advanced Computer Graphics, GRA352 Graphic Design II.

GRA431 History of Graphic Design | 3-0 | 3 cr. A comprehensive survey of the history of graphic design from the development of writing systems to proliferation of digital technology. Prerequisite: ART332 History of Art II.

GRA432 Visual Perception | 3-0 | 3 cr. A comprehensive examination of the development of visual language in relation to human visual perception. It includes the investigation of symbolic representation from abstract to realistic symbols and how human biological and psychological processes influence the way humans interpret and create visual artifacts.
GRA451 Graphic Design III | 1-3 | 3 cr. This advanced level studio course is an in-depth exploration and application of a variety of two- and three-dimensional media in the creation of visual identity systems, the conceptualization and development of entire programs from the creation of an original identity mark to the applications of the mark driven identity to a variety of media. The development of the visual identity program includes documentation of its applications through the formation of design standards. Creative ideas are encouraged through research and practical applications. These applications may include a variety of printed, electronic and three dimensional media. Prerequisites: GRA302 Advanced Computer Graphics, GRA352 Graphic Design II.

GRA452 Graphic Design IV | 1-3 | 3 cr. This course is the final studio course in the graphic design program and serves as a bridge to independent problem solving and professional experience. The course includes the in-depth exploration of a specific area of graphic design through a final project, as well as discussions of current and relevant business and legal issues found in the workplace. In addition this course prepares advanced graphic design students for professional work through the production of an effective portfolio, self-promotion and identity system. Prerequisites: GRA411 Advanced Typography, GRA431 History of Graphic Design, GRA451 Graphic Design III.

GRA462 Graphic Design Seminar | 1-3 | 3 cr. This course serves as an in-depth seminar on subjects of current interest in graphic design. This seminar is a comprehensive studio course including lectures, demonstrations and assignments. Prerequisites: GRA302 Advanced Computer Graphics, GRA352 Graphic Design II, or consent of instructor.

GRA472 Digital Media Design | 1-3 | 3 cr. This course covers the following topics: exploration and the development of multimedia and internet applications, software and hardware requirements on the Macintosh platform, fundamentals of interface design and navigation, development of elements for the production of digital media and interactivity. Emphasis on the development, aesthetics and functionality of digital media projects. Prerequisites: GRA302 Advanced Computer Graphics, GRA451 Graphic Design III.

GRA490 Graphic Design Internship | 3 cr. This course is an exploration of “real world” scenarios and businesses in the field of graphic design. The student under the guidance of a supervisor in a professional environment will become acquainted with procedures and methods in the field of graphic design. Valuable work experience and credit is gained in translating graphic design concepts into professional assignments. Prerequisites: GRA301 Intermediate Computer Graphics, GRA352 Graphic Design II, and permission from the Graphic Design internship advisor.

HISTORY

HST201 Survey of Arab History | 3-0 | 3 cr. This course surveys the political and cultural history of the Arabs from Pre-Islamic Arabia, with special emphasis on Middle Eastern history from the Ottoman Conquest in the 16th century to the present.

HST210 Phoenician Culture | 3-0 | 3 cr. The course is designed to introduce the student to the culture of the Phoenicians, its development in both ancient Phoenicia and the Mediterranean basin, its interaction with the ancient world, and the growing eclecticism of that interaction. The course is interdisciplinary in that it encompasses a number of cultural aspects: an introduction to the Phoenician alphabetical system and its role in the history of human civilization, appreciation of Phoenician art and the analysis of the cultural content expressed in their inscriptions and art, and a general survey of the economic, religious, and philosophical factors to the understanding of the Phoenician culture.

HST311 European History since 1914 | 3-0 | 3 cr. This course discusses the major themes in the history of 20th century Europe. The starting date is the outbreak of World War I. The course emphasizes the intellectual, social, and economic trends and the structural changes whose impact continues to the present. The dwarfing of Europe
and the reaction of Africa and Asia to European hegemony, the emergence of the super powers, the impact of the Communist theory and Soviet example and the recent developments in Russia and Eastern Europe will be analyzed. Intellectual, scientific and artistic trends will be surveyed.

HST312 Europe & the Middle East in the 19th & 20th Centuries | 3-0 | 3 cr. An examination of ties between Europe and the Middle East in the 19th and 20th centuries. The course emphasizes the reaction of Middle Eastern society to Western European intervention and influence. Prerequisite: HST201 Survey of Arabic History or HST 311 European History since 1914 or consent of instructor.

HST313 Revolution in Modern History | 3-0 | 3 cr. An examination of the causes and nature of revolution in the Modern Age. Detailed study of the most significant revolutionary movements. Prerequisite: HST201 or HST311 European History since 1914 or consent of instructor.

HST321 History of Lebanon | 3-0 | 3 cr. This course studies the modern history of Lebanon starting from Fakhr El Din al Ma’ni in the 17th century to the eve of the 1975 civil war. It highlights the developments leading to the emergence of the State of Greater Lebanon; the French Mandate; social, economic and political developments since independence.

HST325 The Rise & Development of Islam | 3-0 | 3 cr. A general survey of pre-Islamic Arabia; the advent of Islam; its principal tenets; its conquest; the Omayyads and Abbasids; their cultural achievements; their impact upon civilization.

INFORMATION SCIENCE

INF201 Learning Resources Techniques | 1-0 | 1 cr. Introduction to the efficient use of library resources and techniques aimed at enabling students to do better research projects, papers and reports. The library becomes an active educational support to the curriculum. A required course to be taken in the student’s first semester at the university.

INTERNATIONAL AFFAIRS (Graduate)

INA811 Theories of International Relations | 3-0 | 3 cr. The course examines the main theoretical approaches to the study of international relations; it involves a comprehension of each theory, its critique and its usefulness as a tool of analysis.

INA812 Foreign Policy Analysis | 3-0 | 3 cr. A seminar examining various factors influencing foreign policy-making, including: the setting of the state in the international system; the nature of the political system; the socio-economic environment; the personalities, beliefs, perceptions and attitudes of decision-makers.

INA813 Topics in International Relations | 3-0 | 3 cr. An analysis of salient political issues and concepts in international relations (with the selection left to the professor).

INA814 Topics in Middle East International Relations | 3-0 | 3 cr. An in-depth study of contemporary Middle Eastern issues involving review of intra-regional ties against a backdrop of indigenous regional factors and the impact of international actors’ policies on the area.

INA815 Topics in International Organizations | 3-0 | 3 cr. A seminar with case studies on how international actors behave under the institutional restraints of the United Nations. The cases include: collective security, disar-
mament, peaceful settlement, peace-keeping, social and technical cooperation, and, international trade and finance management to promote economic development.

INA821 Diplomacy and Bargaining | 3-0 | 3 cr. A seminar focusing on the art and techniques of political bargaining. After theories of bargaining are surveyed, actual negotiations between states are studied and simulated to inject diplomacy with a dose of realism.

INA831 International Political Economy | 3-0 | 3 cr. The seminar examines the basis of the international political economy and analyzes interactions between economic and political factors on the international levels. Discussion issues include: international finance, international trade and the role of governmental and non-governmental international organizations.

INA841 Private International Law | 3-0 | 3 cr. Subjects include: The “classification” to identify legal cases; the application of foreign law in national courts; resolution of laws’ contradictions; conflict of nationalities; issues related to capacity, marriage, contracts, etc.

INA842 Topics of International Law | 3-0 | 3 cr. A seminar on various topics in international law geared to prevailing conditions and interests like: the individual in international law; international criminal law; extradition; recognition of states, governments and belligerent communities.

INA851 International Conflict and Conflict Resolution | 3-0 | 3 cr. A seminar aimed at defending conflict in the international arena and enumerating its various causes; applying general concepts of conflict to concentrate situations; describing and criticizing various perspectives on conflict resolution.

INA899 Thesis | 3-0 | 3 cr. An original and extensive research project under the supervision of an advisor, defended before a committee.

MATHEMATICS

MTH101 Calculus I | 3-0 | 3 cr. An intuitive approach to the techniques of calculus and analytic geometry. Topics include: limits and continuity, differentiation and applications, conics.

MTH102 Calculus II | 3-0 | 3 cr. Integration and applications (areas between curves and arclength). Transcendental functions (exponential, logarithmic and inverse trigonometric functions). Vectors in the plane, and first order differential equations are discussed in brief. Prerequisite: MTH101 Calculus I.

MTH111 Basic Mathematics | 3-0 | 3 cr. A general course in Mathematics that provides a background in numeration systems, logic, set theory, relations and functions, linear programming, quantitative reasoning and probability.

MTH201 Calculus III | 3-0 | 3 cr. Hyperbolic functions. Techniques of integration (stressing the applications to volumes of solids of revolution, surface areas, mass and moments). Rates of growth, sequences and series, parametrization of curves, and polar coordinates.

MTH202 Discrete Mathematics | 3-0 | 3 cr. Set algebra including mappings and relations, counting, induction and recursion, graphs, binary relations and functions, prepositional logic and probability. Prerequisite: MTH101 or MTH111.

MTH204 Differential Equations | 3-0 | 3 cr. First order ordinary differential equations and applications in natural sciences, linear higher order differential equations and applications, systems of linear differential equations, series solutions, and, the method of Laplace Transform. Prerequisite: MTH201 Calculus III.
MTH206 Calculus IV | 3-0 | 3 cr. A course in multivariable calculus. Topics include analytic geometry in space, vector-valued functions and space curves, multivariable functions and partial derivatives, multiple integrals and their applications. Further, complex numbers are introduced. Prerequisite: MTH201 Calculus III.

MTH301 Linear Algebra | 3-0 | 3 cr. Systems of linear equations, vector spaces, linear dependence, bases, linear transformations, matrices, determinants, eigenvalues and eigenvectors. Prerequisite: MTH206 Calculus IV.

MTH302 Geometry | 3-0 | 3 cr. This course presents an investigation of the axiomatic foundations of modern geometry. More specifically, Euclidean geometry is discussed in detail. Less emphasis will also be placed on spherical and/or hyperbolic geometries. Prerequisite: Junior standing.

MTH303 Numerical Analysis | 3-0 | 3 cr. Numerical methods for differentiation and integration, and for solving nonlinear equations, systems of linear equations and differential equations; analysis of error propagation. Prerequisite: MTH301 Linear Algebra.

MTH311 Algebra | 3-0 | 3 cr. The algebra of sets; definition and basic properties of groups, rings and fields; divisibility theorems for integers and polynomials. Prerequisite: MTH206 Calculus IV.

MTH499 Senior Study | 3-0 | 3 cr. Prerequisite: Senior standing.

MUSIC

MUS201 Fundamentals of Music | 0-3 | 3 cr. Basic principles of note values, clef-reading rhythms, scales, writing on the music staff, sight-singing and dictation. Practical experience through playing of the recorder.

MUS202 Chorale | 0-3 | 1 cr. Experience in singing both sacred and secular music of all periods. Three rehearsals per week. Public performances on and off-campus. Up to three credits may be earned in three separate semesters. Admission by audition. Offered every semester.

MUS301 Music Education | 3-1 | 3 cr. The development of the basic skills required for teaching music at the elementary school, including singing, moving to rhythm, hearing tonal relations, understanding notation and using accompanying instruments.

MUS311 Survey of Western Music | 0-3 | 3 cr. Survey of the development of Western music from ancient times through the Baroque, Classical and Romantic periods to the 20th Century and contemporary forms of musical expression. CDs and tapes illustrate the forms and styles characteristics of periods and composers. Emphasis on the place and influence of music as a part of general culture.

MUS312 Survey of Middle Eastern Music | 0-3 | 3 cr. Survey of the historical sources and development of the underlying principles, forms, modes and rhythms of Middle Eastern music. CDs and tapes, and, when possible, live vocal or instrumental performances illustrate important styles, modes, and instrumentation. Music is studied in the context of general Middle Eastern culture.

NUTRITION

NUT201 Fundamentals of Human Nutrition | 3-0 | 3 cr. An introduction to human nutrition and its relation to health. The essentials of an adequate diet, sources of nutrients and how to meet nutritional needs of various family members are included.
PHILOSOPHY and RELIGION

PHL101 Introduction to Philosophy | 3-0 | 3 cr. An introduction to the major issues and outlooks in ancient, modern and contemporary philosophy.

PHL301 Ethics | 3-0 | 3 cr. A critical study of the presupposition and principles of various ethical systems, past and present.

PHL311 Philosophy of Religion | 3-0 | 3 cr. A critical survey of various past and present religious doctrines.

PHL322 Existentialism in Literature | 3-0 | 3 cr. The principles of existentialism and their embodiment in selected poems, novels and plays.

PHL321 Philosophy of Art | 3-0 | 3 cr. The principles and rules of creativity in art. The course considers aesthetic theories of various philosophers and creators of art, both ancient and contemporary.

REL312 Interpretation of Religious Literature | 3-0 | 3 cr. A study of various methods of interpretations of religious texts, literary forms and symbols. Attention is given to the principles and exegetical methods of interpreting the New Testament and the Koran.

REL411 Myth & Ritual | 3-0 | 3 cr. A critical study of some historical, literary, philosophical, theological, aesthetic aspects of myths and rituals. Special attention is given to the content and meaning of myth and ritual in the Greco-Roman, Christian, and Muslim traditions.

REL412 History of Religious Thought in the Middle East | 3-0 | 3 cr. A basic look at thinkers and major problems key to the historical formulation and articulation of Middle Eastern Christianity and Islam.

REL413 Representative of Christian Thought in the Modern Period | 3-0 | 3 cr. A critical study of the works of some modern Christian thinkers.

REL414 Representatives of Islamic Thought in the Modern Period | 3-0 | 3 cr. A critical study of the works of some modern Muslim thinkers.

PHYSICAL EDUCATION

PED101 Basic Health | 0-1 | 1 cr. Basic knowledge of general health and fitness, first aid, nutrition, mental health, disease, drugs, tobacco and sex education.

PED111 Beginning Swimming | 0-2 | 1 cr. Introduction to the basic strokes in swimming (crawl, breasstroke, backstroke and butterfly). Basic safety skills, elementary forms of rescue, and artificial respiration.

PED118 Beginning Table Tennis | 0-2 | 1 cr. Theory, practice, rules knowledge and basic stroke techniques and skills (forehand, backhand, serve, etc.).

PED121 Beginning Tennis | 0-2 | 1 cr. Theory, practice, rules knowledge and basic stroke techniques and skills (forehand, backhand, serve, etc.).

PED131 Modern Dance | 0-2 | 1 cr. Emphasis on individual creativity.

PED132 Folk Dance | 0-2 | 1 cr. Development of coordination and grace, rhythmic awareness and emphasis on international understanding.
PED141 Badminton | 0-2 | 1 cr.

PED151 Basketball | 0-2 | 1 cr. Theory, practice, rules knowledge and development of the different skills in basketball (passing, shooting, dribbling, teamwork and game strategies).

PED161 Volleyball | 0-2 | 1 cr. Theory, practice, rules knowledge and development of the different skills in volleyball (overhead and underarm passing, spiking, serving, digging, blocking, etc.).

PED171 Taekwan-Do | 0-2 | 1 cr.

PED191 Physical Fitness | 0-2 | 1 cr. A basic introduction to fitness including anatomical and physiological considerations, and the latest research relating to fitness. To encourage students to adopt health lifestyles and to engage in stretching, flexibility and light weight training programs.

PED211 Intermediate Swimming | 0-2 | 1 cr. For deep water swimmers. Improvement of form and development of endurance in basic strokes. Includes forms of rescue, artificial respiration, elementary water ballet and racing techniques.

PED212 Advanced Swimming | 0-2 | 1 cr. Perfection of form in all strokes and continued development of endurance. Includes artificial respiration, first aid, synchronized swimming and water ballet.

PED221 Intermediate Tennis | 0-2 | 1 cr.

PHYSICS

PHY101 Introduction to Physical Science | 3-3 | 4 cr. An introduction to essential concepts of astronomy, physics, chemistry and geology for non-science majors.

PHY111 Mechanics | 3-3 | 4 cr. Mechanics and properties of matter, vectors and scalars, linear and circular motion, dynamics of particles, work and power, energy and the conservation theorems, simple harmonic motion, gravitational forces and the properties of solids and fluids, heat and thermodynamics. Prerequisite: MTH102 Calculus II, or concurrently.

PHY201 Electricity and Magnetism | 3-3 | 4 cr. Electricity and magnetism, Coulomb’s law, Gauss Theorem, electrical field and potentials, Ampere’s law and magnetic field, electrical current and Ohm’s law, electromagnetic induction, alternating current and electromagnetic wave. Optics including refraction, interference and diffraction. Prerequisite: MTH201 Calculus III.

PHY211 Statics | 4-0 | 4 cr. Review of vector algebra, forces, moment and couples, free body diagrams and application to beams, frames, arches, planes, trusses, center of gravity. Friction, Virtual work. Prerequisite: Sophomore standing.

PHY311 Dynamics | 3-0 | 3 cr. Kinematics and kinetics of particles, systems of particles, kinetics of rigid bodies. Prerequisites: MTH201 Calculus III and PHY211 Statics.

PHY321 Introduction to Modern Physics | 3-0 | 3 cr. An introduction to modern physics including relativity, photoelectric effect, wave nature of particles, atomic and molecular spectra, models of the nucleus, nuclear reactions and elementary particles. Prerequisites: PHY201 Electricity and Magnetism and MTH201 Calculus III.
POLITICAL SCIENCE

POL201 Introduction to Political Science | 3-0 | 3 cr. Politics as a social science; basic concepts in political science: power, authority, leadership, decision making, etc., relevant political ideologies, contemporary political systems, their modes and functions.

POL202 Lebanese Politics and Administration | 3-0 | 3 cr. A comprehensive survey of the political system in Lebanon from independence to the present. Detailed coverage of Lebanese administrative and constitutional law. Prerequisite: POL201 Introduction to Political Science.

POL211 History of Political Thought I | 3-0 | 3 cr. The course surveys the history of political ideas from the Greeks to the 18th Century. Discussion of political ideas related to the general philosophy of each author’s historical and political background. Readings from original sources. Prerequisite: POL201 Introduction to Political Science.

POL212 History of Political Thought II | 3-0 | 3 cr. A follow-up to History of Thought I, covering political ideas from the Renaissance to the present. Readings from original ideas. Prerequisite: POL201 Introduction to Political Science.

POL221 Comparative Governments of the Major Powers | 3-0 | 3 cr. The comparative history and developments of governments and new approaches to studying them. The whys and wherefores of various political systems and comparisons between them. Prerequisite: POL201 Introduction to Political Science.

POL311 Methodology and Political Analysis | 3-0 | 3 cr. The scope, methods of techniques of political science and alternative approaches to political science research. The techniques of using materials and mechanics of research. Prerequisite: POL201 Introduction to Political Science.

POL312 Politics of the Developing Areas | 3-0 | 3 cr. Thorough study of the functional systems approach to the politics of developing areas. Aspects of political development—participation, leadership, organization, legitimacy and integration—as affected by the analysis of culture and social organization. Focus on the role of developing nations’ military and the phenomena of one-party systems.

POL313 Concepts of International Relations | 3-0 | 3 cr. The nature of the international system and states as units of it. Nationalism, the theory and reality of sovereignty, national power and resources, the balance of power, foreign policy and its making. Objectives, and interests of states, diplomacy, propaganda, political warfare, international law, pacific settlement of disputes, international organizations. Case studies, and, individual or collective research by students to substantiate the concepts. Prerequisite: POL201 Introduction to Political Science.

POL321 American Government and Politics | 3-0 | 3 cr. The structure and process of the American federal political system. Topics include: the nature of American Democracy; the constitutional framework; political attitudes; socialization and participation, political parties and elections; the Federal decision-making process. Prerequisite: POL201 Introduction to Political Science.

POL322 Foreign Policy of the Major Powers | 3-0 | 3 cr. A survey and analysis of the policies of the great powers in the post-cold war period. Changing patterns of ties between the great powers in light of: the USSR’s disintegration; Russia’s revival; the end of the cold war; Japan’s and Germany’s rise as economic giants; China’s economic growth; European integration and U.N.’s revival. Domestic and international influences on great power decision-making, notably security and economic matters. Prerequisite: POL201 Introduction to Political Science.

POL323 Middle East Governments and Politics | 3-0 | 3 cr. The course deals with major issues and problems dominating the Middle East’s political systems. Issues covered include: nationalism, religion, ethnicity, classes patronage, democratization, etc. Prerequisite: POL201 Introduction to Political Science.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL331</td>
<td>International Organization</td>
<td>3</td>
<td>Concepts and the evolution of international organization. The structure and the evolution of the United Nations, with emphasis on collective security, pacific settlements of disputes, peacekeeping operations and economic and social developments. Prerequisite: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL332</td>
<td>Public International Law</td>
<td>3</td>
<td>The nature of international law sources, international law and municipal law, the international systems legal organization, states (their territory and jurisdiction) as subjects of international law, international treaties and agreements, diplomatic and consular agents, laws of war, neutrality, belligerent occupation and war crimes. Case studies on the law of a nations’ principles. Prerequisite: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL421</td>
<td>The Middle East in International Affairs</td>
<td>3</td>
<td>A survey and analysis of Middle East relations in their regional and international context. Relevant regional and international issues with a bearing on the politics of the region's states are discussed. Prerequisite: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL431</td>
<td>International Regional Organizations and Agencies</td>
<td>3</td>
<td>The nature of international organizations, the legal foundations of International Regional Organizations and their relations to the United Nations, the types of International Regional Organizations, and their varied functions, the political and economic significance of regional organizations, the study of one regional organization in some depth. International agencies, their nature and functions. (Talks given by UN personnel when available.) A short research project is required. Prerequisite: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL432</td>
<td>Diplomatic and Consular Services</td>
<td>3</td>
<td>The structure, functions and procedures of diplomatic and consular services; recruitment of diplomatic and consular personnel; diplomacy and diplomatic theory; diplomatic privileges and immunities. Field trips to the Lebanese Foreign Ministry and some embassies in Lebanon; diplomats and consuls brief students on functional aspects of diplomatic and consular life. Prerequisite: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL433</td>
<td>The UN System and Problems of Development</td>
<td>3</td>
<td>A two-part course focusing on: (a) the process and politics of the United Nations System—secretariat, General Assembly administrative and budgetary coordination, program coordination, Economic and Social Council, field administration, and, program decentralization through the regional economic commissions, and, (b) developmental functions, the role of international agencies in political and economic development, concepts of integration and problems of collaboration with international institutions. Prerequisites: POL201 Introduction to Political Science.</td>
</tr>
<tr>
<td>POL499</td>
<td>Senior Study</td>
<td>3</td>
<td>Prerequisite: Senior Standing.</td>
</tr>
</tbody>
</table>

**PSYCHOLOGY**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSY201</td>
<td>Introduction to Psychology</td>
<td>3</td>
<td>It studies the aspects of our life and the basic facts and research methods. The course will give students better understanding of why people think and act the they do and provides more insight into our own attitudes and reactions.</td>
</tr>
<tr>
<td>PSY202</td>
<td>Child Psychology</td>
<td>3</td>
<td>This course deals with different aspects of the prenatal period through the middle years of childhood. It concentrates on the psychology, social intellectual and psychological aspects of behavior and the factors that are involved in the process of development.</td>
</tr>
<tr>
<td>PSY203</td>
<td>Psychology of Youth</td>
<td>3</td>
<td>This course focuses on the changes experienced by the young people at the various levels: physical, cognitive, emotional … It highlights the effects of the surrounding factors leading to</td>
</tr>
</tbody>
</table>
maturity, namely the family, pears, dating and the media. It also covers "obstacles" faced by the adolescent in terms of drugs, and deviance....

**PSY204 Social Psychology | 3-0 | 3 cr.** This course studies the social influence that society has upon the beliefs and behavior of the individuals. Topics covered include: conformity, propaganda, persuasion, social cognition, attraction, aggression and prejudice.

**PSY301 Physiological Psychology | 3-0 | 3 cr.** The course aims at providing the student with a survey of the important areas of physiological psychology. Besides having the student understand the basic mechanisms underlying human behavior with emphasis on the functioning of the human brain.

**PSY311 The Exceptional Child | 3-0 | 3 cr.** To introduce students to the field of special education and exceptionality, and to develop an understanding approaches of children and youth with conduct behavior disorder. Besides the impact of culture family and school on exceptionality.

**PSY322 Cognitive Psychology | 3-0 | 3 cr.** Cognitive psychology seeks to examine the domain of cognition in child development. It is designed to focus upon a broad foundation of cognitive development and the intellectual changes that accompany children's physical growth.

**PSY325 Abnormal Psychology | 3-0 | 3 cr.** This course studies the concept of abnormality and theories and techniques of how to deal with mental disorder for both children and adolescents. It covers integrative theoretical framework of both psychopathology and therapy.

**PSY335 Consumer's Psychology | 3-0 | 3 cr.** This course deals with consumer-oriented marketing and how the consumer makes his choice through decision making. It concentrates on both perceptional processes as well as cognitive and behavioral learning of the consumer.

**PSY421 Theories of Personality | 3-0 | 3 cr.** This course provides comprehensive coverage of the most influential theories of personality. It also examines the interplay of forces that shape the individual's personality through the course of life.

**PSY422 Psychology of Learning | 3-0 | 3 cr.** An analysis of factors in learning through a survey of the major theories of learning. Special emphasis on learning principles and their implications in the teaching process.

**PSY498 Topics in Psychology | 3-0 | 3 cr.** The course deals with an area of psychology or a topic that is not usually dealt within the other psychology offerings. It is aimed at helping students understand and evaluate relative concepts in human development.

**PSY499 Senior Study | 3-0 | 3 cr.** An independent scholarly work on a topic chosen by the student.

**SOCIOPHIL/SOCIAL WORK**

**SOC201 Introduction to Sociology | 3-0 | 3 cr.** The course introduces students to the basic concepts and processes governing social relationships as well as scientific approaches dealing with explaining social phenomena. Various social institutions are examined.

**SOC301 Introduction to Social Work | 3-0 | 3 cr.** The course is an introduction to the profession of social work, its basic philosophy, principles and methodologies. Special emphasis is given to the practice of social work in Lebanon.
SOC311 Social Problems | 3-0 | 3 cr. Analysis of the nature, causes and types of social problems in modern society, notably in the Middle East. Selected social problems are studied, including various theories on such problems and a critical review of proposed solutions. Prerequisite: SOC201 Introduction to Sociology.

SOC313 Family and Child Welfare | 3-0 | 3 cr. The course develops in students a knowledge of and concern for child welfare services through parents' and children's needs, and acquaints them with existing parents' and children's services. Prerequisite: SOC201 Introduction to Sociology or SOC210 Introduction to Social Work.

SOC321 Sociology of the Arab World | 3-0 | 3 cr. A seminar for students interested in understanding the Arab world's social structures with emphasis on major institutions and values, viewed from a three-dimensional perspective, namely: habitat, ethnic composition and history. Prerequisite: SOC201 Introduction to Sociology.

SOC402 Social Work Intervention I | 3-0 | 3 cr. Emphasis on communication and interviewing skills in social work, building professional relationship, stages of the helping process, need assessment methods and skills.

SOC403 Social Work Intervention II | 3-0 | 3 cr. Various interventive roles, methods and techniques: Planning and contracting, identifying alternative interventions, selecting and implementing appropriate courses of action, monitoring, evaluation and termination.

SOC404 Social Work Practicum I | 3-0 | 3 cr. Students are given field experience to apply specific skills and knowledge of working with individuals and families in different social welfare settings.

SOC405 Social Work Practicum II | 3-0 | 3 cr. Emphasis is given to working with groups in different social contexts. Development of professional skills in dealing with different actors in the situation.

SOC499 Senior Study | 1-6 | 3 cr. Prerequisite: Senior Standing.

SPECIAL ARABIC

SAR105 Colloquial Arabic I | 3-0 | 3 cr. A course designed for non-native speakers beginning their study of colloquial Arabic. It moves methodically and progressively aided by materials based on a comparative linguistic analysis of English and Arabic. The course follows an aural-oral approach.

SAR106 Colloquial Arabic II | 3-0 | 3 cr. A course designed to establish mastery of the colloquial Arabic sound system and practical efficiency in the use of colloquial Arabic grammatical structures with an expanded vocabulary. Prerequisite: SAR105 Colloquial Arabic I or equivalent.

SAR111 Standard Arabic I | 3-0 | 3 cr. A course designed for non-Arabic speakers beginning their study of standard Arabic. The course teaches elementary reading and writing and establishes basic language skills in the use of the Arabic sound system, a limited vocabulary and basic standard grammatical structures.

SAR112 Standard Arabic II | 3-0 | 3 cr. A course designed for non-Arabic speakers of modern standard Arabic on the intermediate level. The course teaches grammatical skills within a slightly expanded vocabulary enabling students to read unvowelled texts. Prerequisite: SAR111 Standard Arabic I or equivalent.

SAR221 Developmental Arabic | 3-0 | 3 cr. The course develops appreciation and improves skills in the reading and writing of various types of prose. Individual attention is given to students’ linguistic and communicative proficiency.
STATISTICS

STA201 Business Statistics | 3-0 | 3 cr. Probability, random variable, sampling theory, estimation, hypothesis testing, correlation and regression, time series, and index numbers. No student may receive credit for both STA201 Business Statistics and STA202 Applied Statistics or STA302 Statistics.

STA202 Applied Statistics | 3-0 | 3 cr. An introduction to descriptive and inferential statistics, measures of central tendency and description, correlation and regression, estimation probability and hypothesis testing. No student may receive credit for both STA202 Applied Statistics and STA302 Statistics or STA201 Business Statistics.

STA205 Biostatistics | 3-0 | 3 cr. This course introduces statistical design and analysis techniques needed to perform pharmaceutical research and evaluate clinical data. It includes: designing epidemiologic and clinical studies, evaluating diagnostic testing procedures, interpreting the use of statistical data in Medical Literature and using frequently used statistical methods of data analysis. Emphasis on statistical concepts and their application to critical appraisal of clinical and experimental data.


STA302 Statistics | 4-0 | 4 cr. Probability, random variables, mean and variance, frequency functions, tests of hypotheses. Statistical inference, estimation of parameters, correlation and regression. Prerequisite: MTH206 Multidimensional Calculus. No student may receive credit for both STA302 Statistics and STA201 Business Statistics or STA202 Applied Statistics.

WOMEN'S STUDIES

WOS313 Women in the Arab World: Sociological Perspectives | 3-0 | 3 cr. This course examines the roles and status of Arab women in relation to various societal factors, including a brief overview of legal rights in the Personal Status Code. Class discussions will analyze changes by identifying determinants and patterns of change. Implicitly, students are introduced to basic gender and feminist perspectives on the status of women in Arab societies. Prerequisite: SOC201 Introduction to Sociology.

WOS311 Issues and Debates in Feminist Theory | 3-0 | 3 cr. This course is designed to explore major issues and debates in feminist theory. Feminist texts from the Arab world and other cultures are used. The course is interdisciplinary, and will draw materials from literary criticism, sociology, anthropology, political science and literature. Prerequisite: ENG102 English II.

WOS312 Women and Economic Power | 3-0 | 3 cr. This course aims to explain the economic role played by women at both the household and national levels. The main topics are: The participation of women in the labor force, wage differentials and occupational distribution by gender; determinants of women’s active economic participation and their contribution to national development; women’s involvement in the informal sector — problems faced and approaches used in quantifying their economic contribution in this field; impact of women on consumption patterns and production decision. Prerequisites: ECO201 Microeconomics and ECO202 Macroeconomics.
WOS411 Psychology of Women: A Feminist Perspective  | 3-0  | 3 cr. This course will examine modern psychological theory, especially as it applies to women, from a feminist perspective. Topics include the development of sex differences, gender identity and the various notions of “the feminine mind.” Prerequisites: ENG102 English II, and PSY201 Introduction to Psychology or PSY202 Child Psychology.

WOS412 Representations of Women in the Arts and the Media  | 3-0  | 3 cr. This course deals with the media and various art forms such as cinema, music, poetry, art, the novel, etc., from the Arab and other cultures. Representations of women are examined from a historical perspective and patterns are identified as a basis for evaluation of women’s position in society. Prerequisite: ENG102 English II.
Teaching Faculty at the School of Business

Deans: Mikdashi, T., Ph.D.; Beirut
       Shahin, W., Ph.D.; Byblos

Chairs: Dah, A., Ph.D.; Vitale, E., Ph.D.; Beirut
        Dibeh, G., Ph.D.; Raad, E., Ph.D.; Byblos

Faculty: Abi Fares, G., M.S.; Andraos, A., M.A.; Assad, T., M.S.; Awad, F., M.A.; Beiruti, N., Ph.D.; Bogharian, K., M.S.; Dah, A., Ph.D.; Dibeh, G., Ph.D.; Djoundourian, S., Ph.D.; Ghattas, R., MBA; Harfouche, A., CPA; Karkoulian, S., M.S.; Ladki, S., Ph.D.; Majdalani, M., M.S., MBA; Messara, L., MBA; Mikdashi, T., Ph.D.; Naja, H., MBA.; Peters, D., Ph.D.; Presner, L., Ph.D.; Raad, E., Ph.D.; Safieddine, A., Ph.D.; Shahin, W., Ph.D.; Sreih, J., Ph.D.; Vitale, E., Ph.D.; Yunis, M., M.S.; Zacca, J., MBA, CPA.
The School of Business offers a professional education to students by seeking to:

1. Develop communication and problem-solving skills within a business framework
2. Prepare men and women for responsible management and leadership roles in the community
3. Provide highly trained human resources to aid the economy’s future commercial, charitable and governmental sectors
4. Instill leadership, creativity and integrity necessary to facilitate disciplined economic growth
5. Introduce contemporary issues in multi-national management and information management to assist in the successful integration of the local business community into a global setting, and, further the development of English-language business education in the Middle East.
ASSOCIATE DEGREE PROGRAMS

AAS IN BUSINESS MANAGEMENT

ACC201 Principles of Accounting I 3 cr
ACC202 Principles of Accounting II 3
BUS201 Introduction to Business 3
BUS202 Business Communication 3
BUS203 Business Law 3
BUS211 Management Information Systems 3
ECO201 Microeconomics 3
ECO202 Macroeconomics 3
MGT202 Personnel Management 3
MKT201 Introduction to Marketing 3
MTH205 Business Mathematics 3

Total Credits 33

Students must complete 64 credits in this program—33 credits for the major and 31 credits for the general university requirements.

AAS IN OFFICE MANAGEMENT

ACC201 Principles of Accounting I 3 cr
BUS201 Introduction to Business 3
BUS202 Business Communication 3
ECO201 Microeconomics 3
MTH205 Business Mathematics 3
OFM101 Keypunching I (English) 2
OFM102 Keypunching II (English) 2
OFM111 Keypunching I (Arabic) 2
OFM112 Keypunching II (Arabic) 2
OFM121 Shorthand I 3
OFM122 Shorthand II 3
OFM232 Secretarial Procedures 3
OFM241 Transcription 3
OFM331 Office Management 3

Total Credits 38

Students must complete 66 credits in this program—38 credits for the major and 28 credits for the general university requirements.

BACHELOR OF SCIENCE DEGREE PROGRAMS

BUSINESS STUDIES

The major equips students with professional skills in accounting, banking and finance, computer, economics, management and marketing, enabling graduates to find entry-level jobs in the world of business, finance and government. The program also serves as rigorous preparation for graduate study in business administration and other fields. The BS degree may be obtained at the Beirut and Byblos campuses in Accounting, Banking and Finance, Computer, Economics, Hospitality Management, Management and Marketing.

CORE REQUIREMENTS 30 cr

ACC201 Principles of Accounting I 3
ACC202 Principles of Accounting II 3
BUS203 Business Law 3
BUS211 Management Information Systems 3
ECO201 Microeconomics 3
ECO202 Macroeconomics 3
FIN301 Managerial Finance 3
MGT201 Introduction to Management 3
MKT201 Introduction to Marketing 3
STA201 Business Statistics 3

ACCOUNTING

A total of 51 credits are needed (30 credits for the core and 21 credits for the emphasis), other than the general university requirements, to provide students with skills and knowledge in accounting within a business management context. The major also grounds students in the decision-making process and prepares them for graduate study leading to the MBA or MS degree, or for careers in entry-level position in accounting.

ACC301 Intermediate Accounting 3 cr
ACC302 Cost Accounting 3
ACC401 Advanced Accounting 3
ACC411 Auditing 3
ACC499 Senior Study-Accounting 3
Any two of the following Business Electives: 6

ACC304 Contemporary Issues in Accounting 3
ACC310 Accounting Info. Systems 3
ACC415 Tax Accounting 3
ACC421 International Accounting 3
ACC430 Accounting Internship 3
ECO301 Managerial Economics 3
MGT301 Organizational Behavior 3
STA301 Intermediate Bus. Statistics 3

**BANKING AND FINANCE**

Students need 51 credits in the major (30 credits for the core and 21 credits for the emphasis) to graduate. The major prepares students for management of private and public institutions’ financial structures. It helps them develop skills in the field of financial analysis as well as managerial skills in the money and commodities markets. It prepares qualified personnel and potential executives for Lebanon’s banking sector and the financial service industry.

ECO321 Monetary Theory and Policy 3 cr
FIN302 Financial Institutions and Markets 3
FIN311 Banking Operations 3
FIN411 Security Analysis and Portfolio Management 3
FIN499 Senior Study-Finance 3

Any two of the following Business Electives 6

BUS311 Research Methods 3
ECO322 Public Finance & Fiscal Policy 3
ECO401 International Economics 3
FIN321 Introduction to Insurance 3
FIN401 Senior Seminar in Finance 3
FIN412 Credit Analysis 3
FIN421 Financial Derivatives 3
STA301 Intermediate Business Statistics 3

**COMPUTER**

Students need 51 credits in the major (30 credits for the core and 21 credits for the emphasis) to graduate. The major offers a curriculum focused on practical applied courses enabling students to enter the work force directly. It emphasizes breadth, skills, problem-solving techniques and basic knowledge. It helps students choose from a variety of career opportunities and prepares them for graduate study in business and related fields.

CSC215 Computer Programming I 3 cr

CSC216 Computer Programming II 3
CSC315 File Processing 3
CSC316 Introduction to Software Engineering 3
MTH202 Discrete Mathematics 3
-----499 Any Senior Study course in Business 3

**ECONOMICS**

**Required** 15 cr

ECO301 Managerial Economics 3
ECO321 Monetary Theory and Policy 3
ECO322 Public Finance and Fiscal Policy 3
ECO401 International Economics 3
ECO499 Senior Study, Economics 3

**Plus any two of the following Business Electives** 6 cr

MGT441 Human Resource Development 3
STA301 Intermediate Business Statistics 3
FIN302 Financial Institutions & Markets 3
BUS311 Research Methods 3
ECO311 Economic Development 3
ECO--- Any course in Economics 3

**FAMILY AND ENTREPRENEURIAL BUSINESS MANAGEMENT**

This program caters to students who belong to families already in business and wish to preserve its continuity, maintaining the family’s wealth from generation to generation. The program is also intended for students who wish to start their own businesses, as it encourages entrepreneurship and the building of solid guidelines for future business start-ups.

The courses in this program are designed in such a way that they address the complex workings and challenges of family-owned and family-run businesses. Students will get not only working knowledge of the tools and concepts involved, but they will also develop action plans for their family businesses, manage growth opportunities, and acquire frameworks, analytical skills, techniques and decision making tools that can be used in growing entrepreneurial businesses.

**A. Required** 15 cr

FEB301 Entrepreneurial & Small Bus. Mgt. 3
FEB304 Family Business Management 3
FEB311 Small Business Start-up Lab 3
FEB321 Venture Growth Strategies for Entrepreneurs 3
MGT499 Management Senior Study 3
B. Business electives: Any two of the following 6 cr

ACC302 Cost Accounting 3
MGT301 Organizational behavior 3
MGT202 Personnel Management 3
MGT441 Human Resource Development 3
MKT421 Marketing Research 3
STA301 Intermediate Bus. Statistics 3

HOSPITALITY MANAGEMENT

HOM201 Introduction to RHI 3 cr
HOM204 Restaurant Management 3
HOM302 Hospitality Purchasing 3
HOM304 Hotel Operations 3
HOM306 Quantity Food Production /Catering 3
HOM308 Cost Control in RHI 3
HOM311 Organization and Administration in RHI 3
HOM499 Senior Study - Internship in RHI 3

INTERNATIONAL BUSINESS

The international business emphasis at LAU gives majors a global perspective on management, finance, marketing, international affairs and economics while providing them with a firm foundation in the fundamentals of the business curriculum. The field aims at preparing students for work in the global marketplace as business professionals who can understand and exploit the dynamics of global business and finance.

IBS311 Managing the Multinational Corporation 3 cr
IBS321 Global Financial Management 3
MKT311 International Marketing 3
ECO401 International Economics 3
FIN302 Financial Institutions & Markets 3
IBS499 Senior Study/Internship 3

B. Business electives: One of the following (3 credits)

BUS311 Research Methods 3
STA301 Intermediate Business Statistics 3
ECO311 Economic Development 3
POL313 Concepts of International Relations 3
HOM321 Tourism Economic & Cultural Impact 3

MANAGEMENT

Students need 51 credits in the major (30 credits for the core and 21 credits for the emphasis) to graduate. The major helps students develop skills on how to manage people, material, equipment, information and other resources used in the production of goods and services. It helps them understand the decision-making process in firms. It develops in them an orderly, systematic way of thinking, and, prepares them for graduate work, or for supervisory positions in areas such as purchasing, inventory control, operations scheduling, operations cost control, etc.

ECO301 Managerial Economics 3 cr
MKT301 Organizational Behavior 3
MKT420 Strategic Planning and Policy Formulation 3
MKT441 Human Resources Development 3
MKT499 Management Senior Study 3

Total 15

Any two of the following Business electives: 6

ACC302 Cost Accounting 3
BUS212 MIS II 3
BUS311 Research Methods in Business 3
FIN302 Financial Institutions & Markets 3
HOM204 Restaurant Management 3
HOM304 Hotel Operations 3
MKT202 Personnel Management 3
MKT401 Project Management 3
MKT450 Special topics in Management 3
STA301 Intermediate Business Statistics 3

MARKETING

Students need 51 credits in the major (30 credits for the core and 21 credits for the emphasis) to graduate. The major acquaints students with a full range of skills and knowledge in business management, with a focus on marketing. It instills in students an awareness of the problems of visual design in the world of business and industry. It makes them understand the activities involved in transferring goods and services from producers to consumers and prepares them for graduate studies as well as careers in sales, advertising, public relations, product management, wholesaling, retailing and market research.

MKT301 Promotion Management & Marketing Communication 3 cr
MKT304 Consumer Behavior 3
MKT311 International Marketing 3
MKT421 Marketing Research 3
MKT499 Senior Study, Marketing 3
Any two of the following Business Electives 6 cr
ACC302 Cost Accounting 3
BUS311 Research Methods 3
HOM302 Hospitality Management 3
MGT301 Organizational Behavior 3
MKT488 Topics in Marketing 3
STA301 Intermediate Business Statistics 3

ECONOMICS

The BS in Economics aims to give students a good grounding in both theoretical and applied economics. Students are prepared to work in business, government and finance, immediately after graduation, or, to pursue graduate studies in economics, business, law, public administration, international relations and related fields.

The program consists of up to 36 credit hours in economics courses, plus 15 or 18 credit hours in a chosen track.

The Mathematics track allows students to deepen their knowledge of mathematics in preparation for graduate work in economics or any other quantitatively oriented field such as mathematical finance.

The Political Science track imparts deeper knowledge of political science and international affairs, preparing students for careers in government and international organizations, or for graduate work in international political economy, law, public policy, and international affairs.

The Finance track allows students to immediately take career positions in business and to do graduate work in finance, international finance and banking.

The Management track prepares students for careers in management positions and human resource development, and, prepares them for graduate work in personnel and organizational economics, management information technologies and MBA.

PLAN OF STUDY

I. Economics - All tracks 36 cr
ECO201 Microeconomics 3
ECO202 Macroeconomics 3
ECO211 Intermediate Macroeconomic Theory and Policy 3
ECO301 Managerial Economics 3
ECO311 Economic Development 3
ECO321 Monetary Theory and Policy 3
ECO322 Public Finance and Fiscal Policy 3
ECO401 International Economics 3
ECO402 Advanced Topics in Economics 3
ECO499 Senior Study, Economics 3
STA201 Business Statistics 3
STA301 Intermediate Business Statistics 3

Track I (Finance) 18 cr
ACC201 Accounting I 3
ACC202 Accounting II 3
FIN301 Managerial Finance 3
FIN302 Financial Institutions and Markets 3
FIN311 Banking Operations 3
FIN411 Security Analysis and Portfolio Management 3

Track II (Management) 18 cr
ACC201 Accounting I 3
ACC202 Accounting II 3
MGT201 Introduction to Management 3
MGT301 Organizational behavior 3
plus
BUS211 Management Information Systems 3
MGT441 Human Resource Development 3
or
BUS211 Management Information Systems 3
BUS212 Management Information Systems II 3

Track III (Mathematics) 15 cr
MTH201 Calculus III 3
MTH301 Linear Algebra 3
MTH204 Differential Equations 3

Plus any 6 hours of the following:
CSC231 Linear Programming 3
MTH202 Discrete Mathematics 3
MTH206 Multidimensional Calculus 3
MTH303 Numerical Analysis 3

Track IV (Political Science/International Affairs) 15 cr
POL201 Introduction to Political Science 3 cr
Any 12 hrs upper division in Political Science and International Affairs

HOSPITALITY & TOURISM MANAGEMENT

Career opportunities for Hospitality & Tourism Management majors include positions in sales, personnel administration, public relations, auditing, front office management, housekeeping, food and beverage management, meetings
and conventions planning, and general management positions. Graduates may serve as managers or directors of hotels, restaurants, catering, food processing, and travel and tourism related industries.

The curriculum compromises two areas of instruction: general and professional. The general area involves requirements in natural and social sciences, English, humanities, history, psychology, economics, speech and mathematics. The professional area includes courses in accounting, communication, marketing, personnel management, food production, food and beverage purchasing and control, hotel operations, front desk management, tourism economic and cultural impact and hospitality seminars. Students must complete 320 hours of applied hands-on training activities to develop their technical skills and apply classroom learning in real-world settings.

**Hospitality Management Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOM201 Introduction to RHI</td>
<td>3</td>
</tr>
<tr>
<td>HOM204 Restaurant Management</td>
<td>3</td>
</tr>
<tr>
<td>HOM302 Hospitality Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>HOM304 Hotel Operations</td>
<td>3</td>
</tr>
<tr>
<td>HOM306 Quantity Food Production / Catering</td>
<td>3</td>
</tr>
<tr>
<td>HOM308 Cost Control in RHI</td>
<td>3</td>
</tr>
<tr>
<td>HOM311 Organization and Administration in RHI</td>
<td>3</td>
</tr>
<tr>
<td>HOM499 Senior Study - Internship in RHI</td>
<td>3</td>
</tr>
</tbody>
</table>

**Tourism Management Requirements**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOM211 Introduction to Travel &amp; Tourism</td>
<td>3</td>
</tr>
<tr>
<td>HOM321 Tourism Economic &amp; Cultural Impact</td>
<td>3</td>
</tr>
<tr>
<td>HOM324 Convention &amp; Service Management</td>
<td>3</td>
</tr>
<tr>
<td>HOM488 Seminar in Hospitality &amp; Tourism</td>
<td>3</td>
</tr>
</tbody>
</table>

**MASTER OF BUSINESS ADMINISTRATION DEGREE PROGRAM**

Since 1981, LAU has prepared men and women for key roles in managerial and professional positions in business and public organizations. In a brief span the School of Business has grown rapidly to become the largest English-language program of its kind in the Middle East by encouraging scientific appreciation of the society in which managers act, with creativity and high moral purposes, and, promoting leadership in the quest for economic and social development.

In offering a Master in Business Administration, LAU draws on substantial and growing experience in undergraduate business education to provide a significant opportunity for advanced education to seekers of a business career.

The university also recognizes that persons with undergraduate degrees in fields other than business (e.g. engineering, agriculture, liberal arts, etc.) may pursue a business education, so the curriculum has been adapted to meet their needs. Moreover, to make the program accessible to those already active in management, provision has been made for part-time students at conveniently scheduled times. Students must complete a total of 39 credits (18 credits for the core and 21 credits for the emphasis and research requirements).

**A. Core Requirements**

All candidates for the Master of Business Administration degree must satisfy the following requirements:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS811 Business Economics</td>
<td>3</td>
</tr>
<tr>
<td>BUS831 Management Theory</td>
<td>3</td>
</tr>
<tr>
<td>BUS841 Marketing Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS851 Quantitative Methods in Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS852 Research Methods in Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS861 Financial Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**B. Students can choose to pursue one of the following remaining options for graduation:**

1. Take seven courses from the following list
2. Take six of the following and BUS898 Project in Business
3. Take five of the following and BUS899 Thesis in Business

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS821 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS822 Management Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BUS832 Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>BUS833 Personnel Management &amp; Human Resources Development</td>
<td>3</td>
</tr>
<tr>
<td>BUS834 Project Planning and Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS835 Commercial Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS836 Modern Portfolio Management</td>
<td>3</td>
</tr>
<tr>
<td>BUS837 International Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS871 Seminar in Business</td>
<td>3</td>
</tr>
<tr>
<td>(can be taken more than once for credit, with different topics)</td>
<td></td>
</tr>
<tr>
<td>BUS872 Business Policy and Planning</td>
<td>3</td>
</tr>
<tr>
<td>BUS898 Project in Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS899 Thesis in Business</td>
<td>6</td>
</tr>
</tbody>
</table>
ACCOUNTING

ACC201 Principles of Accounting I | 3-0 | 3 cr. This course is an introduction to accounting principles and practices. This course covers measuring, recording, summarizing, reporting and interpreting financial transactions that affect the income statements and balance sheets of service and merchandising organizations. Topics include the accounting cycle, accounting for merchandising transactions, accounting systems and classified financial statements.

ACC202 Principles of Accounting II | 3-0 | 3 cr. This course is a continuation of ACC201 Principles of Accounting I with emphasis on basic accounting and managerial issues related to partnerships and corporations. Topics include the organization, operation, and liquidations of partnerships, the organization, operation and financing of corporations, short-term and long-term investments in corporate securities, the statement of cash flow, and financial statement analysis. Prerequisite: ACC201 Principles of Accounting I.

ACC301 Intermediate Accounting | 3-0 | 3 cr. Accounting theory and problems emphasizing financial reporting issues and financial statement interrelationships. Intensive study of generally accepted accounting principles and their application. Topics include the historical development and theoretical structure of financial accounting, revenue recognition and income determination, corporate reporting requirements, accounting changes and error analysis. Prerequisite: ACC202 Principles of Accounting II.

ACC302 Cost Accounting | 3-0 | 3 cr. This course is an intensive study of concepts and methods used in cost accumulation for financial reporting, planning and control, and managerial decision making. Topics include cost allocation, job, process and direct costing, and, standard cost systems. Prerequisite: ACC202 Principles of Accounting II.

ACC304 Contemporary Issues in Accounting | 3-0 | 3 cr. Intensive study of accounting and reporting issues related to elements of assets, liabilities and equities. Topics include accounting for contingencies, troubled debt restructuring, pensions and post-retirement benefits, operating and capital leases. Prerequisite: ACC301 Intermediate Accounting.

ACC310 Accounting Information Systems | 3-0 | 3 cr. Deals with how computer-based accounting information systems perform the managerial and financial accounting functions. System development and controls are also covered. Topics include hardware and software considerations, system flowcharting, system controls, and systems for general ledger, working capital and fixed assets. Prerequisite: ACC202 Principles of Accounting II.

ACC401 Advanced Accounting | 3-0 | 3 cr. The emphasis of this course is on the application of advanced accounting concepts to specialized business entities such as partnerships, branches, affiliated companies, government entities, and the analysis and solution of problems that arise in the application of these concepts. Topics include accounting for partnerships and branches, consolidated financial statements, segment reporting, reorganization and liquidation. Prerequisite: ACC202 Principles of Accounting II.

ACC411 Auditing | 3-0 | 3 cr. This course covers the environment of auditing, and the concepts and methods used by independent auditors in gathering audit evidence and formulating audit opinions. Topics include auditors’ professional responsibilities, audit planning, study and evaluation of internal control, and auditing of transaction and balances. Prerequisite: ACC202 Principles of Accounting II.

ACC415 Tax Accounting | 3-0 | 3 cr. Considers principles of taxation and makes a comparative study between U.S. and Lebanese tax laws. Prerequisite: ACC202 Principles of Accounting II.
ACC421 International Accounting | 3-0 | 3 cr. This course provides an introduction to international accounting and its role in international business. Topics include development of international accounting, accounting systems in a global environment, international financial reporting issues, accounting for foreign currency transactions and derivatives, international financial analysis, international management accounting, and international taxation. Prerequisite: ACC202 Principles of Accounting II.

ACC430 Accounting Internship | 3-0 | 3 cr. Students may earn up to three credits by working during their last summer vacation for a period of 16 weeks at an instructor-approved accounting position with a business not owned by a relative of the student. Students are required to write a weekly report about their daily activities. The weekly report forms the basis of supervision and evaluation by the instructor. Prerequisite: Senior standing and instructor’s consent.

ACC499 Senior Study-Accounting | 3-0 | 3 cr. This course involves case studies, a field project and special topics selected by the instructor. Prerequisite: Senior standing.

BANKING AND FINANCE

FIN301 Managerial Finance | 3-0 | 3 cr. The course is concerned with the firm’s financing and investment decisions. Students learn how financial managers raise funds for their corporations and how they allocate those funds among the assets of the firm. Topics include time value of money, valuation of bonds and stocks, capital budgeting, financial statement analysis, working capital management and long term financing. Prerequisite: ACC202 Principles of Accounting II.

FIN302 Financial Institutions and Markets | 3-0 | 3 cr. The course is concerned with financial systems. The emphasis is on understanding the operations of financial institutions, markets and instruments. Topics include commercial banking, expansion process of money, central banking and other financial institutions, types of financial markets and instruments, interest rates. Prerequisite: ACC202 Principles of Accounting II.

FIN311 Banking Operations | 3-0 | 3 cr. The course is concerned with the management of commercial banks’ operations. It provides students with a description and analysis of those operations. It also investigates the techniques and tools that commercial bank managers apply to perform their job. Topics include structure and internal organization of banks, lending policies, asset and liability management. Prerequisite: FIN301 Managerial Finance and FIN302 Financial Institutions and Markets.

FIN321 Introduction to Insurance | 3-0 | 3 cr. This course examines the theory of risk management and insurance, the institutional aspects of the insurance industry and decision making tools applicable to the insurance industry. Prerequisite: ACC202 Principles of Accounting II.

FIN401 Senior Seminar in Finance | 3-0 | 3 cr. The course covers special issues in the field of banking and finance not covered in other courses. Specific topics covered are at the discretion of the instructor. Prerequisite: FIN301 Managerial Finance, FIN302 Financial Institutions and Markets and senior standing.

FIN411 Security Analysis and Portfolio Management | 3-0 | 3 cr. The course is concerned with the evaluation of financial securities and the formation of efficient portfolios. Models will be developed to determine the value of financial instruments such as stocks and bonds. Portfolio management deals with the combination of securities to maximize returns and minimize risk. Topics include risk and return, diversification, efficient portfolios, efficient markets, interest rate risk, duration. Prerequisites: FIN301 Managerial Finance and FIN302 Financial Institutions and Markets.

FIN412 Credit Analysis | 3-0 | 3 cr. The course provides students with knowledge and analytic techniques on the principles of credit risk identification, financial analysis of a firm, and credit decision process, with special attention
to banking experience and credit application packages cases. Prerequisites: FIN301 Managerial Finance, FIN302 Financial Institutions and Markets and FIN311 Banking Operations.

**FIN421 Financial Derivatives | 3-0 | 3 cr.** This course is concerned with derivative securities and markets. Topics include options, option markets, option strategies, option pricing models, futures, futures markets, futures strategies, futures pricing models, swaps and financial risk management using derivatives. Prerequisite: FIN411 Security Analysis and Portfolio Management.

**FIN499 Senior Study-Finance | 3-0 | 3 cr.** The course is concerned with the integration of financial concepts and techniques the students have learned and the application of those concepts and techniques to real world situations. Prerequisites: Senior standing, FIN301 Managerial Finance, FIN302 Financial Institutions and Markets, FIN411 Security Analysis and Portfolio Management or instructor’s consent.

**BUSINESS (General)**

**BUS201 Introduction to Business | 3-0 | 3 cr.** An introductory survey of the business environment. Topics include: basic business functions and their interrelationships, accounting, finance, management, marketing and economics. Open to freshmen and sophomores only.

**BUS202 Business Communication | 3-0 | 3 cr.** Development of writing skills applied to various forms of business communication. Prerequisites: ENG101 English II, ENG102 English III.

**BUS203 Business Law | 3-0 | 3 cr.** Introduction to legal concepts. Survey of the Lebanese legal system, notably contract laws, commercial papers, personal and real property, agencies, partnerships and corporations, bankruptcies and labor.

**BUS205 Survey of Economics and Marketing | 3-0 | 3 cr.** An introduction to the basic principles of Microeconomics and Marketing. The course addresses the theory of consumer behavior, cost and price determination, the elements of marketing mix, product, pricing, promotion and distribution decisions. (This course is not open to students majoring in Business or to those who have taken either ECO201 Microeconomics or MKT201 Introduction to Marketing).

**BUS211 Management Information Systems | 3-0 | 3 cr.** Problems of managing the information system resource, combining case studies and lectures to facilitate critical thinking on computer acquisition, information systems development and organizational development of end-user computing. Prerequisite: ACC202 Principles of Accounting II.

**BUS212 Management Information Systems II | 3-0 | 3 cr.** Explore on a more advanced level the variety of networking and telecommunication environments applied in business. Applications in database management, decision support, and decision analysis are also covered. Students are exposed to analyze, design, and manage information systems. Prerequisite: BUS211 Management Information Systems.

**BUS311 Research Methods | 3-0 | 3 cr.** Acquaints students with the importance of research in business. Topics include: Research proposal design, data collection, descriptive and statistical analysis. Prerequisite: STA301 Intermediate Business Statistics.

**BUSINESS (Graduate)**

**BUS811 Business Economics | 3-0 | 3 cr.** Overview of microeconomics from a managerial decision-making standpoint, emphasizing and applying basic concepts to selected problems. Topics include the firm’s behavioral and
managerial theories, determination of national income, demand estimation, cost determination, forecasting and government regulation.

**BUS821 Financial Accounting | 3-0 | 3 cr.** Introduction to financial accounting concepts from a managerial viewpoint, emphasizing use of financial information in decision making. Topics include recording economic events, basic accounting concepts, essential accounting standards, interrelationship of financial statement elements, analysis, interpretation and use of internal and external data.

**BUS822 Management Accounting | 3-0 | 3 cr.** A study of cost accounting applications and related techniques to decision-making, emphasizing control and use of internally-generated accounting data. Topics include cost allocation, variance analysis, budgeting and cost control system, responsibility reporting, capital budgeting.

**BUS831 Management Theory | 3-0 | 3 cr.** Introduction to management, organizational behavior and development theories and practices, emphasizing applications in managerial situations. Topics include goal-setting, manpower planning and control, motivational techniques, problem-solving processes.

**BUS832 Management Systems | 3-0 | 3 cr.** Introduces students to recent practices in corporate information management. Combines lectures and case studies and encourages participants to critically analyze the effects information technology has on most businesses and industries. Topics include: E-mail networking, telecommunication practices, EDI, executive information systems, the concept of information resource management.

**BUS833 Personnel Management and Human Resources Development | 3-0 | 3 cr.** A critical look at organizations’ principles, methods and resources. Topics include: strategic human resource management for effective employee training and education within a development plan, corporate training roles, management issues on employment recruiting, testing, selection and placement, job evaluation, wage and salary administration, labor relations and communication, performance evaluation, benefits and services, discipline, motivation and morale, accident prevention and safety.

**BUS834 Project Planning and Management | 3-0 | 3 cr.** An examination of techniques to select, supervise and evaluate projects, emphasizing application of project performance control of methods. Topics include: needs analysis, alternative courses of action, optimum alternatives, project organization, operation and control, project completion and evaluation.

**BUS835 Commercial Bank Management | 3-0 | 3 cr.** The course covers commercial bank managers’ policies and decisions. Analysis includes advanced treatment of asset-liability management, emphasizing risk management issues such as interest rates, liquidity, credit, capital, off-balance sheet activities. The analysis presents financial engineering techniques in risk management and evaluates bank performance.

**BUS836 Modern Portfolio Management | 3-0 | 3 cr.** The course applies concepts of efficient capital markets, modern portfolio theory and asset pricing models to practical problems of security analysis, portfolio construction, optimization and performance measurement. The analysis considers return and risk characteristics of various financial investment instruments and derivatives including common stocks, bonds, futures, options, forward contracts, swaps, caps, floors and other asset-backed securities.

**BUS837 International Business | 3-0 | 3 cr.** A field survey with emphasis on: the cultural, economic, political and social environments of international business, with a view to global banking, finance and insurance, exporting, importing, the roles of governments and international institution.

**BUS841 Marketing Management | 3-0 | 3 cr.** The course shows students how to manage the marketing process for organizations to optimize resource use and maximize benefits. It focuses on decision-making. Lectures, discussions and projects engage students in learning how best to manage scarce resources.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS851</td>
<td>Quantitative Methods in Business</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS852</td>
<td>Research Methods in Business</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS861</td>
<td>Financial Management</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS871</td>
<td>Seminar in Business</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS872</td>
<td>Business Policy and Planning</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS898</td>
<td>Research Topic in Business</td>
<td>3-0</td>
<td>3 cr.</td>
</tr>
<tr>
<td>BUS899</td>
<td>Thesis in Business</td>
<td>6-0</td>
<td>6 cr.</td>
</tr>
</tbody>
</table>

**BUS851 Quantitative Methods in Business | 3-0 | 3 cr.** Introduction to the application of mathematical techniques in business decision-making, emphasizing practical usage in management situations. Topics include: linear programming, transportation problems, network planning, queuing theory, regression analysis, modeling techniques.

**BUS852 Research Methods in Business | 3-0 | 3 cr.** Examination of research methods applicable to identification, definition and problem resolution in a business environment, emphasizing data collection and analysis techniques. Topics include: problem identification and definition, hypothesis formulation, data collection methodology, statistical validation, research report writing.

**BUS861 Financial Management | 3-0 | 3 cr.** Review of concepts underlying the financing of a business, emphasizing the uses of capitalization and leverage for current operations and future expansion. Topics include: valuation theory, investment theory, financial planning and control, dividend policy and growth, alternative capitalization structures, appraisal of capital projects, mergers and acquisitions.

**BUS871 Seminar in Business | 3-0 | 3 cr.** Examination of current or developing issues in management practices, emphasizing immediacy impact and availability of top level technique resources. Topics may vary and are announced shortly before registration for semesters in which the seminar is offered. The seminar may be taken for credit more than once.

**BUS872 Business Policy and Planning | 3-0 | 3 cr.** Application of policy formulation and implementation concepts, emphasizing the practical use of managerial skills and theoretical frameworks. Topics include: problem identification and definition, organizational goal setting, establishment, performance review and evaluation.

**BUS898 Research Topic in Business | 3-0 | 3 cr.**

**BUS899 Thesis in Business | 6-0 | 6 cr.** Application of research methods to a current topic relevant to business and business education in the Middle East. The thesis must incorporate the student’s hypothesis, test methods, test results and conclusions in a report available to later researchers. In some cases, the faculty may authorize expanded research procedures resulting in high-quality theses.

**ECONOMICS**

**ECO201 Microeconomics | 3-0 | 3 cr.** An introductory course dealing with the nature and scope of economics, consumer behavior, theory of the firm, price determination, allocation of resources.

**ECO202 Macroeconomics | 3-0 | 3 cr.** An introductory course dealing with the principles of national income accounting, national income determination, macroeconomics’ objectives and policy instruments, relative effectiveness of fiscal and monetary policies in stabilizing the economy.

**ECO211 Intermediate Macroeconomics | 3-0 | 3 cr.** The course uses the latest theoretical techniques and models in macroeconomics to address the measurement and determination of income, prices, employment, interest rates and aggregate demand and supply. The course also stresses stabilization fiscal and monetary policies under various schools of macroeconomic thinking and the sources of instability in the private economy. Prerequisite: ECO201 Microeconomics, ECO202 Macroeconomics.

**ECO301 Managerial Economics | 3-0 | 3 cr.** The course applies economic concepts to managerial problems. Topics include decision making under conditions of risk and uncertainty, demand analysis and estimation, cost analysis, market structures and their impact on pricing practices. Prerequisites: ECO201 Microeconomics, ECO202 Macroeconomics.
ECO311 Economic Development | 3-0 | 3 cr. Theories of economic development. Plans, policies, programs and projects. Building institutional mechanisms to achieve development. Prerequisites: ECO201 Microeconomics, ECO202 Macroeconomics.

ECO321 Monetary Theory and Policy | 3-0 | 3 cr. Money and the banking system's nature and functions. Topical coverage includes interaction between the monetary and real estate sectors, money supply and demand determinants, importance of the money stock in deciding real economic variables, monetary policy and economic stability. Prerequisites: ECO201 Microeconomics, ECO202 Macroeconomics.

ECO322 Public Finance and Fiscal Policy | 3-0 | 3 cr. The course discusses needed government intervention in case of market failure. Topical coverage includes: taxation and public debt as revenue sources and public policy instruments, government expenditure patterns and tax structures, public expenditures to assure government services and as fiscal policy instruments. Prerequisites: ECO201 Microeconomics, ECO202 Macroeconomics.

ECO401 International Economics | 3-0 | 3 cr. Principles of trade and resource allocation among nations. Monetary, foreign exchange and trade restriction problems and programs. Prerequisites: ECO201 Microeconomics, ECO202 Macroeconomics.

ECO402 Advanced Topics in Economics | 3-0 | 3 cr. Selected topics in economic theory. Prerequisite: At least 12 credits in economics courses. May be repeated for credit with instructor’s consent.

ECO499 Senior Study | 3-0 | 3 cr. Case studies, research readings and field projects. A look at recent research topics from a practical standpoint. Prerequisite: Senior standing.

FAMILY AND ENTREPRENEURIAL BUSINESS

FEB301 Entrepreneurship And Small Business Management | 3-0 | 3 cr. This course is designed to address the complex workings of small businesses that are family owned and run. It will give students a working knowledge of the tools and concepts involved in preparing a business plan. Topical coverage includes: foundations of entrepreneurship, forms of ownership and franchising, methods for determining the value of a business, marketing and financial consideration in building a business plan, managing inventory in the small business, quality control and just in time techniques, managing human resources in the family businesses, techniques for enhancing profitability, global aspects of entrepreneurship. Prerequisites: MGT201 Introduction to Management.

FEB304 Family Business Management | 3-0 | 3 cr. This course is designed to address the challenges unique to businesses that are family owned and run. It will help students develop action plans for their family businesses. Topical coverage includes: concepts of corporate governance vs. classical governance, structures of a family business, key elements of a governance structure, family businesses vs. board of directors, securing succession as a key governance measure, handling the control task as a key governance measure, ownership and developmental dimensions, founders and entrepreneurial experience, structures and plans guiding developments. Other topics include: Families as sources of capital, leadership in family businesses, separating family life and work life, how to work with family relations, children in the family business, working with siblings, working with the expected family, divorce/marriage and other complexities affecting the business, dynamics of succession, managing the transition, sibling rivalry, multi generational issues. Prerequisite: MGT201 Introduction to Management.

FEB311 Small Business Start-Up Laboratory | 3-0 | 3 cr. The objective of this course is to encourage students to start new businesses and to address functional ways of start-ups. It will include topics such as: types of new businesses, new markets and the web, how to start marketing on the web, creating and designing your web page, electronic commerce and the future, how to find new products, how to sell on line, evaluation of potential startups, site selection and layout, competitive advantage and marketing research, pricing and credit policies, preparing small
businesses to go global. The course will include a laboratory and will end up with a feasibility study or a business plan. Prerequisite: Senior standing, MGT201 Introduction to Management, MKT201 Introduction to Marketing.

**FEB321 Venture Growth Strategies For Entrepreneurs | 3-0 | 3 cr.** This course is designed to help entrepreneurs manage growth opportunities. It will provide students with a series of frameworks, analytical skills, techniques and decision making tools that can be used in growing entrepreneurial businesses. The course attempts to combine various innovative pedagogical techniques in developing students’ understanding of growth management in a dynamic environment. Teams of students will be asked to manage companies in their growing phases, making appropriate decisions regarding all the functional aspects of the business through computer simulation. Exercises and presentations are built around the simulation. The course will also include financing options, going public, tapping capital markets. Prerequisite: MGT201 Introduction to Management, FIN 201 Managerial Finance

**HOSPITALITY MANAGEMENT**

**HOM201 Introduction to Restaurant, Hotel, and Institutional (RHI) Administration | 3-0 | 3 cr.** Introduces students to the history and operation of restaurants, hotels and institutions. The course also examines the various characteristics of hospitality establishments.

**HOM204 Restaurant Management | 3-0 | 3 cr.** Applies the principles of food and beverage management in full-service restaurants – either independent restaurants or those within commercial/non-commercial food service operations. Class lectures introduce administrative concepts that are involved in restaurant management. Dining room setup, table setup, plate placement, carving, flambé, and wine service will be demonstrated in laboratory settings.

**HOM211 Introduction to Travel & Tourism | 3-0 | 3 cr.** A survey of travel and tourism, focus on concepts, terminology, demographics, financial significance and trends. The course will also evaluate the economics, social and political impact of travel and tourism, including market, transportation, media, and destination development.

**HOM302 Hospitality Purchasing | 3-0 | 3 cr.** Acquaints students with the classifications/functions of the various food markets. Helps students understand the relationship between food specifications and purchasing methods, while enhancing students’ organizational skills in the administration of a successful purchasing department. Involves discussion of concepts such as purchasing methods, negotiations, market evaluations and regulations.

**HOM304 Hotel Operations | 3-0 | 3 cr.** The study of organization, planning, leadership, decision-making and administration of hotels with emphasis on front desk operations. Investigation of the interdependence of the housekeeping engineering, security, guest services food and beverage, marketing, personnel, purchasing, accounting and front desk departments in successful hotel operations. Students will explore computer information systems used in hotel operations.

**HOM306 Quantity Food Production/Catering | 3-0 | 3 cr.** Using the functions of management, this course applies the principles of food production and cafeteria service in quantity for institutions and commercial food service operations. This capstone food and beverage management course brings together food production, cost control, personnel and organizational management while providing students with an opportunity to exercise their ability and creativity in managing a catered event.

**HOM308 Cost Control in RHI | 3-0 | 3 cr.** Analysis of fundamentals and techniques of cost control in food service and hotel management. Management procedures to control costs from purchase through service are studied.
Emphasis is placed on strategic planning, budgeting, efficiency, labor management and productivity, energy management, production, service and computers as they relate to controlling costs.

HOM311 Organization and Administration in RHI | 3-0 | 3 cr. The study of the organization, management and administration of restaurants, hotels and institutional programs, with emphasis on planning, leadership, and decision making. Investigation of effective communication, laws, regulations and standards as they relate to management. Considers merchandising and promotion restaurants, hotels and institutions. Principles of education and effective teaching methods as they relate to employee training and in-service education are studied. Study of human relations and group dynamics. Emphasis on the use of computers and their applications in organization and management.

HOM321 Tourism Economic & Cultural Impact | 3-0 | 3 cr. The role of economic and cultural impact of tourism in development and planning, the nature of and priorities given to tourism and tourism policies at national scales will be explored. This course presents important quantitative methods used by tourism planners, researchers and consultants including a description of their uses and their relationship to other research techniques as well as examples of contemporary applications. It focuses on the tools and practice of tourism analysis and persuasive presentations of information. Topics include descriptive methods for defining and describing tourism, decision-making models for tourist behavior, forecasting models and location analysis models.

HOM324 Convention & Service Management | 3-0 | 3 cr. An overview of the convention industry includes meetings, tradeshows, conferences, and incentive travel. The management of convention centers and its relationship with local government is also discussed. The course will focus on the operational management of trade shows including design, construction and risk management as applied to project financing, fire protection, customer and workplace safety, and OSHA regulations.

HOM488 Seminar in Hospitality & Tourism | 3-0 | 3 cr. This course covers specific timely issues of RHI not covered in detail in the curriculum. This course may be substituted for another RHI course given the consent of the program advisor.

HOM499 Senior Study Internship in RHI Supervised work-study program in a hotel. Students have to enroll in this course in the summer of their junior year for 15 hours a week over a period of eight weeks. Students are expected to interview for positions in facilities approved by an internship director. Consent of internship director is required.

INTERNATIONAL BUSINESS

IBS311 Managing the Multinational Corporation | 3-0 | 3 cr. The course covers the strategies and tactics that international managers use to design, operate, control and implement business activities in the modern world by emphasizing various functions of international business including distribution and logistics, production, global sourcing, export strategies and sales, strategic alliances and international human resources management. The course then covers the coordination of complementary tasks among a diverse number of international units be they branches, subsidiaries, sales offices and shipping points. Prerequisite: MGT201 Introduction to Management, MKT 201 Introduction to Marketing.

IBS321 Global Financial Management | 3-0 | 3 cr. The course covers the environment of international financial management, foreign exchange risk management, multinational working capital management, financing foreign operations, special financing vehicles, international banking trends and strategies, corporate strategy and foreign direct investment and the measurement and management of country risk. Prerequisites: FIN301 Managerial Finance.
MANAGEMENT

MGT201 Introduction to Management | 3-0 | 3 cr. A study of management principles and concepts, specifically its history and philosophy, processes, decision making, planning, organizing, actuating and controlling.

MGT202 Personnel Management | 3-0 | 3 cr. Role of the personnel manager, scope of personnel function in terms of recruitment, selection, placement and remuneration. Emphasis on job design, enrichment, evaluation and the individual’s interaction with the work environment. Prerequisite: BUS201 Introduction to Business or MGT201 Introduction to Management.

MGT301 Organizational Behavior | 3-0 | 3 cr. Organizations’ social psychology; individual perception, motivation, learning and communication style; group dynamics as related to problem solving and decision making, leadership style, word structuring and the larger environment. Prerequisite: MGT201 Introduction to Management.

MGT401 Project Management | 3-0 | 3 cr. Problems of managing projects on identification, design, appraisal, selection, organization, operations, supervision and control, completion and evaluation. Prerequisites: Senior standing, ACC202 Principles of Accounting II, MGT201 Introduction to Management.

MGT420 Strategic Planning and Policy Formulation | 3-0 | 3 cr. The study and understanding of the strategic planning stages necessary to define, analyze, design, formulate and implement the strategy or strategies that an organization follows. The aim of this course is to provide the tools necessary for students to comprehend and act on strategic decision-making. Students will be acquainted with the design of logical stages that define and generate sound business strategies and how to implement these aiming at achieving long-term success for the organization. In addition, this course will emphasize the management skills needed to carry out this practice. Industry case studies will be used to examine success as well as failure stories of organizations.

MGT441 Human Resources Development | 3-0 | 3 cr. Based on the functions of management, this course provides the students with the tools necessary to run contemporary functions applied in human resources development. Having known the classical functions of personnel management, and based on the continuous change of organizations, students will cover the advanced topics in Strategic management of human resources, training and development, performance appraisal management, career planning, technology implementation, and other new happenings in the realm of human resources.

MGT450 Special Topics in Management | 3-0 | 3 cr. This course covers management topics not usually included in the curriculum. It offers a detailed understanding of timely issues and applications in the worlds of production and management, both in private as well as in public frameworks. Operations and production management, entrepreneurship and small business management are covered among other topics. This course requires the consent of the program advisor.

MGT499 Senior Study | 3-0 | 3 cr. Case studies, research readings and field projects. A look at recent research topics from a practical standpoint. Prerequisite: Senior standing.

MARKETING

MKT201 Introduction to Marketing | 3-0 | 3 cr. Analyzes the elements of the marketing mix: product pricing, promotion and distribution decisions. Topical coverage includes the legal and social environments influencing the marketing process.

MKT301 Promotion Management and Marketing Communication | 3-0 | 3 cr. The course is based on the dynamics of decision making process concerning the promotional blend (mainly advertising and sales promotion) as part of the marketing mix. Topics include promotion budget, budget allocation among different promotional
tools, and developing promotional programs. Students explore the issues of compatibility between promotion and the marketing strategy, consumer response to different messages, creativity, and trade response to different promotional tools. Prerequisites: MKT201 Introduction to Marketing.

**MKT304 Consumer Behavior | 3-0 | 3 cr.** Customer satisfaction is the core of the marketing concept, and understanding consumers and their behavior is the basis of successful marketing strategies and programs. This course provides an overview of current knowledge about consumer behavior. Basic behavioral science and marketing specific techniques used in marketing practice are covered. Prerequisites: MKT Introduction to Marketing.

**MKT311 International Marketing | 3-0 | 3 cr.** The course offers knowledge from two perspectives. Marketing concepts and applications, in a dynamic environment of globalization. Prerequisite: MKT201 Introduction to Marketing.

**MKT421 Marketing Research | 3-0 | 3 cr.** Provides students with analytical tools to collect and analyze market data. Topical coverage includes: principles of scientific research, techniques, methodological problems, organization and management of marketing research. Prerequisites: MKT201 Introduction to Marketing, STA201 Business Statistics and ECO201 Microeconomics, or consent of the division.

**MKT488 Topics in Marketing | 3-0 | 3 cr.** The course covers special topics in marketing such as distributional channels and logistics, services marketing and sales management. The course could be taken more than once for credit when topics differ. Prerequisites: MKT201 Introduction to Marketing.

**MKT499 Senior Study | 3-0 | 3 cr.** Case studies, research readings and field projects. A look at recent research topics from a practical standpoint. Prerequisite: Senior standing.

**OFFICE MANAGEMENT**

**OFM101 Keypunching I (English) | 0-4 | 2 cr.** A course to develop skillful and efficient typing by the touch method.

**OFM102 Keypunching II (English) | 0-4 | 2 cr.** A continuation of OFM101 Keypunching I (English). Prerequisite: OFM101 Keypunching I (English).

**OFM111 Keypunching I (Arabic) | 0-4 | 2 cr.** A course to develop skillful and efficient typing by the touch method.

**OFM112 Keypunching II (Arabic) | 0-4 | 2 cr.** A continuation of OFM111 Keypunching I (Arabic). Prerequisite: OFM111 Keypunching I (Arabic).

**OFM121 Shorthand I | 3-0 | 3 cr.** A course to develop the skillful use of Gregg shorthand. Practice in reading, dictation and transcription of textual and other material. Prerequisite: ENG101 English II.

**OFM122 Shorthand II | 3-0 | 3 cr.** A continuation of OFM121 Shorthand I. Prerequisite: OFM121 Shorthand I.

**OFM232 Secretarial Procedures | 3-0 | 3 cr.** Professional duties and procedures common to the secretary. Prerequisites: OFM101 Keypunching I (English), OFM121 Shorthand I.

**OFM241 Transcription | 3-0 | 3 cr.** An integration of adequate English, shorthand and typing skills to produce acceptable shorthand transcripts with reasonable translation speed and a high level of accuracy. Prerequisite: OFM122 Shorthand II.
The School of

● ● ● Engineering and Architecture
The School of Engineering and Architecture

Teaching Faculty at the School of Engineering & Architecture

Dean: Sfeir, A., Ph.D.

Chairs: Haddad, E., Ph.D.
        Nasr, G., Ph.D.
        Tabbara, M., Ph.D.

The School of Engineering and Architecture offers programs in Architecture, Interior Design and Engineering.

Engineering: five programs of study leading to the degrees of
- Bachelor of Engineering (BE) in Civil Engineering
- Bachelor of Engineering (BE) in Computer Engineering
- Bachelor of Engineering (BE) in Electrical Engineering
- Bachelor of Engineering (BE) in Industrial Engineering
- Bachelor of Engineering (BE) in Mechanical Engineering.

Architecture and Design: four programs leading to the degrees of
- Associate in Applied Science (AAS) in Interior Design
- Bachelor of Science (BS) in Interior Design
- Bachelor of Arts in Interior Architecture
- Bachelor of Architecture (B Arch).

LAU’s architecture and engineering programs are designed to give graduates a rich academic and professional foundation leading to successful careers in today’s global markets. While specific technical components are the central part of each of the programs, courses in the humanities and social sciences prepare students to be well-rounded individuals who can practice their profession with proper concern and attention to environmental, social and economic problems. Furthermore, careful attention is given to the development of the student personality and work habits, stressing on personal skills that are key factors for successful careers. The teaching-learning process is meant to emphasize the development of practical competence, critical thinking, ability and passion for self-learning, as well as the capacity for teamwork, leadership and entrepreneurship.

All Engineering and Architecture programs require a minimum of four academic years and three summers of studies after the Lebanese Baccalaureate, and are recognized by the Lebanese Government.
ASSOCIATE DEGREE PROGRAM

AAS in INTERIOR DESIGN

The Associate in Applied Science program offers a comprehensive set of courses in drafting and design, as well as general exposure to the design profession. The total number of credits required for graduation with an AAS in Interior Design is 64 credits.

This program may be completed in a minimum of two academic years. Students may also elect to spread the program over a longer period of time and take additional courses in Computer Aided Design or other professional courses from the Architecture & Interior Design curricula.

MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART201</td>
<td>3</td>
</tr>
<tr>
<td>ART202</td>
<td>3</td>
</tr>
<tr>
<td>DES101</td>
<td>3</td>
</tr>
<tr>
<td>DES111</td>
<td>3</td>
</tr>
<tr>
<td>DES112</td>
<td>3</td>
</tr>
<tr>
<td>DES113</td>
<td>3</td>
</tr>
<tr>
<td>DES211</td>
<td>3</td>
</tr>
<tr>
<td>DES212</td>
<td>3</td>
</tr>
<tr>
<td>DES219</td>
<td>3</td>
</tr>
<tr>
<td>DES221</td>
<td>3</td>
</tr>
<tr>
<td>DES224</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
</tr>
</tbody>
</table>

GENERAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA101 Arabic Essay Reading &amp; Writing I.</td>
<td>3</td>
</tr>
<tr>
<td>ARA102 Arabic Essay Reading &amp; Writing II.</td>
<td>3</td>
</tr>
<tr>
<td>BIO101 Introd. Biological Science</td>
<td>4</td>
</tr>
<tr>
<td>CST201 Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>CST202 Cultural Studies II</td>
<td>3</td>
</tr>
<tr>
<td>ENG101 English II</td>
<td>3</td>
</tr>
<tr>
<td>ENG102 English III</td>
<td>3</td>
</tr>
<tr>
<td>INF201 LRT</td>
<td>1</td>
</tr>
<tr>
<td>PED101 Basic Health</td>
<td>1</td>
</tr>
<tr>
<td>PED --- Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>PSY201 Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>--------- Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
</tr>
</tbody>
</table>

BACHELOR OF ARTS DEGREE PROGRAM

INTERIOR ARCHITECTURE

This program shares the basic philosophy and curriculum of the other design programs, adding another dimension by preparing students to respond to selected areas of professional specialization, in order to meet the increasing demand for historic preservation, restoration, and adaptive reuse of buildings.

The total number of credits required for the degree of Bachelor of Arts in Interior Architecture is 145 credits excluding the 30 credit hours taken in the Freshman year or a total of 175 credit hours including the Freshman credits. This program may be completed in 5 academic years (after Freshman) including summer terms. Students may also elect to spread the program over a longer period of time.

Students who completed the B.S. in Interior Design may apply to this program, and would normally complete its requirements in one additional year of study, culminating with a thesis project that addresses a problem in one of the areas of specialization.

MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC251 Computer Aided Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARC252 Computer Aided Design II</td>
<td>3</td>
</tr>
<tr>
<td>ART201 Fundamentals of Design I</td>
<td>3</td>
</tr>
<tr>
<td>ART202 Fundamentals of Design II</td>
<td>3</td>
</tr>
<tr>
<td>ART221 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART222 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>DES101 Basic Studio Skills</td>
<td>3</td>
</tr>
<tr>
<td>DES111 Interior Design I</td>
<td>3</td>
</tr>
<tr>
<td>DES112 Interior Design II</td>
<td>3</td>
</tr>
<tr>
<td>DES113 Render. &amp; Persp. Techniques</td>
<td>3</td>
</tr>
<tr>
<td>DES201 Const. &amp; Finishes Technology I</td>
<td>3</td>
</tr>
<tr>
<td>DES211 Interior Design III</td>
<td>3</td>
</tr>
<tr>
<td>DES212 Interior Design IV</td>
<td>3</td>
</tr>
<tr>
<td>DES217 Intro.to Mech. Systems, Elect., Light.</td>
<td>3</td>
</tr>
<tr>
<td>DES221 History of Arch. and Furniture</td>
<td>3</td>
</tr>
<tr>
<td>DES222 History of Design</td>
<td>3</td>
</tr>
<tr>
<td>DES227 Photo. for Arch. &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>DES301 Const. &amp; Finishes Technology II</td>
<td>3</td>
</tr>
<tr>
<td>DES303 Comparative Styles</td>
<td>3</td>
</tr>
<tr>
<td>DES311 Interior Design V</td>
<td>4</td>
</tr>
</tbody>
</table>
DES312 Interior Design VI 4
DES325 Adv. Color Theory & Light 3
DES411 Interior Design VII 4
DES412 Interior Design VIII 4
DES421 Professional Practice I 3
DES423 Landscape Open Space Design 3
DES425 Furniture Design Shop 3
DES511 Advanced Interior Design IX 6
DES512 Advanced Interior Design X 6
DES521 Professional Practice II 3
Total 100

GENERAL ELECTIVES

(Choose three courses)
ECO201 Micro Economics 3
ECO202 Macro Economics 3
HUD202 Psych. of Young Child 3
POL201 Introduction to Political Science 3
PSY201 Introduction to Psychology 3
SOC201 Introduction to Sociology 3
Other Social Science Courses
Total (for three courses) 9

ART ELECTIVES

(Choose 12 Credits)
ART221 Drawing I 3
ART222 Drawing II 3
ART351 Sculpture I 3
ART352 Sculpture II 3
ART341 Painting I 3
ART342 Painting II 3
ADV211 Photography I 3
ART331 History of Art I 3
ART335 Islamic Art of the Middle East 3
Total (for four courses) 12

BACHELOR OF ARCHITECTURE DEGREE PROGRAM

The Architecture Program aims at developing theoretical knowledge alongside practical skills required in the professional field, in order to bridge the gap often found between “thinking” and “making.” This approach is based on the interrelation between technical and theoretical studies centered around studio projects and supported by the latest technologies and design tools. The program also offers wide exposure to current issues and problems of theoretical and practical nature thus giving a sound foundation for professional practice as well as possible specialization and further studies. The dynamic environment created in the various design studios offers a wide range of perspectives in creative thinking, and is further supported by an active program of travelling studios, visiting critics and exchanges with architecture and design institutes worldwide.

The total number of credits required for graduation with a B.Arch. degree is 187 credits. This program may be completed in a minimum of 5 academic years (after Freshman) including summer terms.

MAJOR REQUIREMENTS

Design Courses:
ARC201 Architectural Design I 6
ARC202 Architectural Design II 6
ARC301 Architectural Design III 6
ARC302 Architectural Design IV 6
ARC401 Architectural Design V 6
ARC402 Architectural Design VI 6
ARC501 Architectural Design VII 6
ARC502 Architectural Design VIII 6
Total 48

Thesis Courses:
ARC601 Architectural Design IX 6
ARC602 Architectural Design X 6
Total 12

Structure Courses:
ARC311 Architectural Statics 3
ARC312 Strength of Materials 3
ARC411 Structural Systems I 3
ARC412 Structural Systems II 3
Total 12

Building Construction Courses:
ARC221 Materials & Const. Techniques 2
ARC321 Building Construction I 2
ARC322 Building Construction II 2
ARC421 Building Construction III 2
ARC521 Building Construction IV 2
Total 10

Environmental System Courses:
ARC331 Environmental Systems I 3
ARC332 Environmental Systems II 2
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC431</td>
<td>Environmental Systems III</td>
<td>3</td>
</tr>
<tr>
<td>ARC432</td>
<td>Environmental Systems IV</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

**Professional Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC531</td>
<td>Intro. to Landscape Design</td>
<td>3</td>
</tr>
<tr>
<td>ARC532</td>
<td>Intro. to Urban Planning</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**History Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC341</td>
<td>History of Architecture I</td>
<td>2</td>
</tr>
<tr>
<td>ARC342</td>
<td>History of Architecture II</td>
<td>2</td>
</tr>
<tr>
<td>ARC343</td>
<td>History of Architecture III</td>
<td>2</td>
</tr>
<tr>
<td>ARC541</td>
<td>Contemporary Trends</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

**Theory Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC241</td>
<td>Introduction to Architecture</td>
<td>2</td>
</tr>
<tr>
<td>ARC242</td>
<td>Architectural Theory I</td>
<td>2</td>
</tr>
<tr>
<td>ARC243</td>
<td>Architectural Theory II</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**Drafting & CAD Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC101</td>
<td>Basic Studio Skills I</td>
<td>3</td>
</tr>
<tr>
<td>ARC102</td>
<td>Basic Studio Skills II</td>
<td>3</td>
</tr>
<tr>
<td>ARC251</td>
<td>Computer Aided Design I</td>
<td>3</td>
</tr>
<tr>
<td>ARC252</td>
<td>Computer Aided Design II</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

**Peripherals Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC351</td>
<td>Shop I</td>
<td>2</td>
</tr>
<tr>
<td>ARC422</td>
<td>Shop II</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

**Professional Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC362</td>
<td>Working Drawings &amp; Specs</td>
<td>3</td>
</tr>
<tr>
<td>ARC542</td>
<td>Architectural Economics</td>
<td>3</td>
</tr>
<tr>
<td>ARC551</td>
<td>Office Practice</td>
<td>6</td>
</tr>
<tr>
<td>ARC641</td>
<td>Codes, Laws and Contracts</td>
<td>2</td>
</tr>
<tr>
<td>ARC652</td>
<td>Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17</td>
</tr>
</tbody>
</table>

**Professional Electives (12 credits):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC222</td>
<td>Surveying</td>
<td>3</td>
</tr>
<tr>
<td>ARC261</td>
<td>Rendering &amp; Perspective</td>
<td>3</td>
</tr>
<tr>
<td>ARC533</td>
<td>Urban Planning II</td>
<td>3</td>
</tr>
<tr>
<td>ARC423</td>
<td>Architectural Model Making</td>
<td>3</td>
</tr>
<tr>
<td>ARC253</td>
<td>Advanced CAD I</td>
<td>3</td>
</tr>
<tr>
<td>ARC254</td>
<td>Computer Animation</td>
<td>3</td>
</tr>
<tr>
<td>ARC345</td>
<td>Regional Architecture I</td>
<td>3</td>
</tr>
</tbody>
</table>

**COLLEGE REQUIREMENTS AND ELECTIVES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA201</td>
<td>Appreciation of Arabic Literature</td>
<td>3</td>
</tr>
<tr>
<td>ENG201</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENG202</td>
<td>Sophomore Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>INF101</td>
<td>LRT</td>
<td>1</td>
</tr>
<tr>
<td>CST201</td>
<td>Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>CST202</td>
<td>Cultural Studies II</td>
<td>3</td>
</tr>
<tr>
<td>CST301</td>
<td>Cultural Studies III</td>
<td>3</td>
</tr>
<tr>
<td>PED101</td>
<td>Basic Health</td>
<td>1</td>
</tr>
<tr>
<td>PED---</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>21</td>
</tr>
</tbody>
</table>

**Social Science Electives (6 credits):**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO201</td>
<td>Micro Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECO202</td>
<td>Macro Economics</td>
<td>3</td>
</tr>
<tr>
<td>HUD202</td>
<td>Psych. of Young Child</td>
<td>3</td>
</tr>
<tr>
<td>POL201</td>
<td>Introduction to Political Sc.</td>
<td>3</td>
</tr>
<tr>
<td>PSY201</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC201</td>
<td>Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Total (for 2 courses)</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**General Electives:**

Three credits must be taken among any course above the Freshman level as a General Elective. General Electives are taken from any field except the professional field.

The total number of credits required for graduation with a B.Arch. degree is 187 excluding the 30 credits taken in the Freshman year or a total of 217 credit hours including the Freshman credits.

**BACHELOR OF ENGINEERING DEGREE PROGRAM**

The five undergraduate engineering programs offered by the School are designed to prepare students for engineering careers in design, development, research, and project supervision and management. The goal is to provide students with sufficient technical background, skills, and experience that will enable them to successfully compete in today's globalized and rapidly changing job markets. Students are also provided with a strong foundation in mathematics, physical sciences and engineering sciences allowing them to undertake
advanced graduate studies. Programs are built and implemented according to the ABET2000 guidelines. Continuous monitoring of "outcomes" is used to improve course contents and pedagogy.

Programs consist of a common pre-engineering part, followed by the professional portion that is specific to every major. In the fourth year, students have the opportunity to gain a greater depth of understanding of specific emphasis areas, to engage in research and in the design of real-life engineering projects.

**COMMON ENGINEERING COURSES**

The common part of the program concentrates on mathematics, physics, chemistry, and general engineering sciences in addition to humanities, social sciences, and other courses that are part of the general university requirements. Common courses listed below amount to a total of 70 credits most of which are usually completed in the first two years. Students may also elect to take these courses over a longer period of time.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA201</td>
<td>Appreciation of Arabic Literature</td>
<td>3</td>
</tr>
<tr>
<td>CHM201</td>
<td>Chemical Principles</td>
<td>3</td>
</tr>
<tr>
<td>COE201</td>
<td>Computer Proficiency</td>
<td>1</td>
</tr>
<tr>
<td>CST201</td>
<td>Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>CST202</td>
<td>Cultural Studies II</td>
<td>3</td>
</tr>
<tr>
<td>CST301</td>
<td>Cultural Studies III</td>
<td>3</td>
</tr>
<tr>
<td>ENG201</td>
<td>Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENG202</td>
<td>Sophomore Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>GNE301</td>
<td>Professional Communication</td>
<td>2</td>
</tr>
<tr>
<td>GNE331</td>
<td>Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>GNE333</td>
<td>Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>GNE334</td>
<td>Engineering Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>GNE498</td>
<td>Professional Experience</td>
<td>6</td>
</tr>
<tr>
<td>INE320</td>
<td>Engineering Economy I</td>
<td>3</td>
</tr>
<tr>
<td>INF201</td>
<td>Learning Resources Techniques</td>
<td>1</td>
</tr>
<tr>
<td>MEE220</td>
<td>Engineering Graphics</td>
<td>4</td>
</tr>
<tr>
<td>MTH201</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MTH204</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MTH206</td>
<td>Calculus IV</td>
<td>3</td>
</tr>
<tr>
<td>PED101</td>
<td>Basic Health</td>
<td>1</td>
</tr>
<tr>
<td>PED---</td>
<td>Physical Education</td>
<td>1</td>
</tr>
<tr>
<td>PHY211</td>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>PHY311</td>
<td>Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>---------</td>
<td>Social Science Courses</td>
<td>6</td>
</tr>
</tbody>
</table>

**CIVIL ENGINEERING**

Civil Engineering is a broad field of study covering diverse areas including computer-aided design and engineering (CAE-CAD), geographic information systems (GIS), soil and rock mechanics, foundations, concrete and steel structures, hydraulics and hydrology, environmental engineering, and transportation engineering. The Civil Engineering curriculum develops the concept of design coupled with engineering judgment, enhances communication skills, and stresses computer fluency. The broad-based curriculum permits all students to take at least two courses in all traditional civil engineering areas - structural analysis and design, transportation, hydraulics and hydrology, geotechnical, environmental - but also provides flexibility and meets student needs through a selection of civil engineering electives in the fourth year. Six credits of office practice are also included in the summer of the third year to provide students with the opportunity to gain field and office experience directly related to the Civil Engineering profession.

The Civil Engineering Program requires the completion of 155 semester hours including the 70 credits of the common pre-engineering program. While the program is credit based, a typical schedule over a four year period including summer sessions is listed below. Students may select to take these courses over a longer period of time.

**Civil Engineering Requirements**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>COE201</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CHM201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENG202</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MEE220</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MTH201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH204</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH206</td>
<td>3</td>
</tr>
<tr>
<td>Spring</td>
<td>COE211</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>CIE301</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>INF201</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>MTH204</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MTH206</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PHY311</td>
<td>3</td>
</tr>
<tr>
<td>Summer I</td>
<td>ARA201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CST201</td>
<td>3</td>
</tr>
<tr>
<td>Summer II</td>
<td>CST202</td>
<td>3</td>
</tr>
</tbody>
</table>
ENG201 Communication Art 3  
CIE401 Construction Materials 3  
CIE403 Structures I 3  
CIE421 Fluid Mechanics 3  
GNE331 Probability & Statistics 3  
GNE333 Engineering Analysis I 3

**Fall Semester 18 cr**  
CIE203 Water Quality 3  
CIE401 Construction Materials 3  
CIE403 Structures I 3  
CIE421 Fluid Mechanics 3  
GNE331 Probability & Statistics 3  
GNE333 Engineering Analysis I 3

**Spring Semester 12 cr**  
CIE42 Geology for Engineering 2  
CIE404 Stress Analysis 3  
CIE405 Concrete Structures I 3  
CIE406 Structures II 3  
CIE422 Hydraulics 3  
GNE334 Engineering Analysis II 3

**Summer I Semester 6 cr**  
GNE301 Professional Communication 2  
PED… Physical Education 1  
……… Social Science Course 3

**Summer II Semester 6 cr**  
CIE411 Surveying 3  
……… Social Science Course 3

**THIRD YEAR**

**Fall Semester 17 cr**  
CIE413 Transportation Engineering I 3  
CIE451 Environmental Engineering I 4  
CIE501 Soil Mechanics 4  
CIE506 Concrete Structures II 3  
INE320 Engineering Economy I 3

**Spring Semester 14 cr**  
CIE502 Foundation Engineering 3  
CIE503 Steel Structures 3  
CIE523 Hydrology 3  
CIE552 Environmental Engineering II 3  
MEE401 Energy Systems 2

**Sum II Semester 6 cr**  
GNE498 Professional Experience 6

**FOURTH YEAR**

**Fall Semester 13 cr**  
CIE441 Project Scheduling 3  
CIE598 Project I 3  
INE402 Optimization 3  
PED101 Basic Health 1  
……… Technical Elective 3

**COMPUTER ENGINEERING**

Students taking the Computer Engineering Program study digital systems, communication systems and computers to a great depth. In addition to core Computer Engineering material, the program includes courses from Electrical Engineering and Computer Science. This provides for balanced coverage and integration of the hardware and software aspects of computer systems. In addition, office practice in an approved professional environment is required in the summer of the third year. Graduates of the program are prepared for employment in the computer and communication industries or may also select to pursue graduate studies. The broad scope of the program enables the student to pursue many different career paths related to computers and their uses.

The Computer Engineering Program requires the completion of 155 semester hours including the 70 credits of the
common pre-engineering program. While the program is credit based, a typical schedule over a four-year period including summer sessions is listed below. Students may select to take these courses over a longer period of time.

**COMPUTER ENGINEERING REQUIREMENTS**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Fall of First Year</th>
<th>17 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE201 Computer Proficiency</td>
<td>1</td>
</tr>
<tr>
<td>ENG202 Sophomore Rhetoric</td>
<td>3</td>
</tr>
<tr>
<td>MEE220 Engineering Graphics</td>
<td>4</td>
</tr>
<tr>
<td>PHY201 Electricity &amp; Magnetism</td>
<td>3</td>
</tr>
<tr>
<td>PHY211 Statics</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring of First Year</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSC215 Computer Programming I</td>
<td>3</td>
</tr>
<tr>
<td>CST201 Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>ELE301 Electrical Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>INF201 Learning Resources Techniques</td>
<td>1</td>
</tr>
<tr>
<td>MTH204 Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MTH206 Calculus IV</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer I of First Year</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHM201 Chemical Principles</td>
<td>3</td>
</tr>
<tr>
<td>GNE333 Engineering Analysis I</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer II of First Year</th>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA201 Appreciation of Arabic Literature</td>
<td>3</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

<table>
<thead>
<tr>
<th>Fall of Second Year</th>
<th>17 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE312 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CSC216 Computer Programming II</td>
<td>3</td>
</tr>
<tr>
<td>ELE302 Electrical Circuits II + Lab</td>
<td>4</td>
</tr>
<tr>
<td>GNE334 Engineering Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>INE320 Engineering Economy I</td>
<td>3</td>
</tr>
<tr>
<td>PED101 Basic Health</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring of Second Year</th>
<th>17 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE321 Logical Design + Lab</td>
<td>4</td>
</tr>
<tr>
<td>COE414 Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>COE418 Database Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELE401 Electronics I + Lab</td>
<td>4</td>
</tr>
<tr>
<td>ELE430 Signals and Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer I of Second Year</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG201 Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>………… Social Science Course</td>
<td>3</td>
</tr>
</tbody>
</table>

**Summer II of Second Year**

<table>
<thead>
<tr>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE301 Professional Communication</td>
</tr>
<tr>
<td>GNE331 Probability &amp; Statistics</td>
</tr>
<tr>
<td>PED… Physical Education</td>
</tr>
</tbody>
</table>

**THIRD YEAR**

<table>
<thead>
<tr>
<th>Fall of Third Year</th>
<th>17 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE312 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>COE414 Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>ELE302 Electrical Circuits II + Lab</td>
<td>4</td>
</tr>
<tr>
<td>GNE334 Engineering Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>INE320 Engineering Economy I</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring of Third Year</th>
<th>16 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE423 Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>COE431 Computer Networks</td>
<td>3</td>
</tr>
<tr>
<td>ELE424 Control Systems + Lab</td>
<td>4</td>
</tr>
<tr>
<td>ELE538 Noise in Communication Systems</td>
<td>3</td>
</tr>
<tr>
<td>INE402 Optimization</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sum I of Third Year</th>
<th>6 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE498 Professional Experience</td>
<td>6</td>
</tr>
</tbody>
</table>

**FOURTH YEAR**

<table>
<thead>
<tr>
<th>Fall of Fourth Year</th>
<th>15 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE511 Object Oriented Programming</td>
<td>3</td>
</tr>
<tr>
<td>ELE539 Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>INE427/429 Project Scheduling / Contracting</td>
<td>3</td>
</tr>
<tr>
<td>………… Technical Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring of Fourth Year</th>
<th>13 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE424 Reconfigurable Computing</td>
<td>4</td>
</tr>
<tr>
<td>CST301 Cultural Studies III</td>
<td>3</td>
</tr>
<tr>
<td>………… Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>………… Technical Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**TECHNICAL ELECTIVES**

<table>
<thead>
<tr>
<th>3 cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE314 File Processing</td>
</tr>
<tr>
<td>COE511 Object Oriented Programming</td>
</tr>
<tr>
<td>COE525 Advanced Computer Architecture</td>
</tr>
<tr>
<td>COE527 VLSI</td>
</tr>
<tr>
<td>COE533 Advanced Computer Networks</td>
</tr>
</tbody>
</table>
ELECTRICAL ENGINEERING

Electrical Engineering is a science-oriented branch of engineering primarily concerned with all phases of development and utilization of electric signals and intelligence. The study of Electrical Engineering can be conveniently divided into the academic areas of circuits, electronics, electromagnetics, electric energy systems, communications, control, and computer engineering. Because of the extremely rapid growth and changes relating to the application of electrical engineering principles, the curriculum is designed for concentration on a solid core of basic foundation courses covering all areas of Electrical Engineering. Six credits of office practice are also included in the summer of the third year to give students an opportunity to integrate classroom instruction with practical work experience as a part of their academic program.

The Electrical Engineering Program requires the completion of 152 semester hours including the 70 credits of the common pre-engineering program. While the program is credit based, a typical schedule over a four year period including summer sessions is listed below. Students may select to take these courses over a longer period of time.

ELECTRICAL ENGINEERING REQUIREMENTS

FIRST YEAR

Fall of First Year
- COE201 Computer Proficiency 1
- ENG202 Sophomore Rhetoric 3
- MEE220 Engineering Graphics 4
- MTH201 Calculus III 3
- PHY201 Electricity & Magnetism 3
- PHY211 Statics 3

Spring of First Year
- COE211 Computer Programming 4
- CST201 Cultural Studies I 3

SECOND YEAR

Fall of Second Year
- ELE302 Electrical Circuits II + Lab 4
- ELE411 Electromagnetic Fields 3
- GNE334 Engineering Analysis II 3
- INE320 Engineering Economy I 3
- MEE401 Energy Systems 2
- PED101 Basic Health 1

Spring of Second Year
- COE321 Logical Design + Lab 4
- ELE401 Electronics I + Lab 4
- ELE413 Electromagnetic Waves 3
- ELE430 Signals and Systems 3
- PHY311 Dynamics 3

Summer I of Second Year
- ENG201 Fundamentals of Oral Communication 3
- ……… Social Science Course 3

Summer II of Second Year
- GNE301 Professional Communication 2
- GNE331 Probability & Statistics 3
- PED… Physical Education 1

THIRD YEAR

Fall of Third Year
- COE323 Microprocessors + Lab 4
- CST202 Cultural Studies II 3
- ELE420 Electromechanics 3
- ELE537 Communication Systems + Lab 4
- ……… Social Science Course 3

Spring of Third Year
- CST301 Cultural Studies III 3
- INE427/429 Project Scheduling / Contracting 3
INDUSTRIAL ENGINEERING

Industrial growth has created unusual opportunities for the Industrial Engineer. Automation and the emphasis on increased productivity coupled with higher levels of systems sophistication are resulting in more demand for engineering graduates with a broad interdisciplinary background. The Lebanese American University is the only university operating in Lebanon that offers an undergraduate Industrial Engineering Program. This program prepares the student for industrial practice in such areas as product design and manufacturing, process design, plant operation, production control, quality control, facilities planning, work system analysis and evaluation, and economic analysis of operational systems. Students are trained to use engineering principles in the solution of problems encountered in environments and situations where a quantitative basis for decision-making is desirable. Six credits of approved industrial experience are also required. The Industrial Engineering Program requires the completion of 154 semester hours including the 70 credits of the common pre-engineering program. While the program is credit based, a typical schedule over a four-year period including summer sessions is listed below. Students may select to take these courses over a longer period of time.

INDUSTRIAL ENGINEERING REQUIREMENTS

FIRST YEAR

Fall of First Year 17 cr
- CHM201 Chemical Principles 3
- COE201 Computer Proficiency 1
- ENG202 Sophomore Rhetoric 3
- MEE220 Engineering Graphics 4
- MTH201 Calculus III 3
- PHY211 Statics 3

Spring of First Year 17 cr
- COE211 Computer Programming 4
- CST201 Cultural Studies I 3
- INF201 Learning Resources Techniques 1
- MEE321 Material Properties & Processes 3
- MTH204 Differential Equations 3
- MTH206 Calculus IV 3

Summer I of First Year 6 cr
- ARA201 Appreciation of Arabic Literature 3
- GNE333 Engineering Analysis I 3

Summer II of First Year 6 cr
- PED… Physical Education 1

SECOND YEAR

Fall of Second Year 16 cr
- GNE334 Engineering Analysis II 3
- INE302 Linear Programming 3
- INE304 Stochastic Processes 3
- INE320 Engineering Economy I 3
- PED101 Basic Health 1
- PHY311 Dynamics 3
Spring of Second Year 16 cr
GNE301 Professional Communication 2
INE306 Decision Analysis 3
INE340 Advanced Statistics 3
INE345 Production Control 4
MEE432 Production Processes & Machinery 4

Summer I of Second Year 6 cr
ENG201 Fundamentals of Oral Communication 3
........ Social Science Course 3

Summer II of Second Year 3 cr
........ Social Science Course 3

THIRD YEAR

Fall of Third Year 18 cr
CST202 Cultural Studies II 3
ELE305 Introduction to Electrical Engineering 3
INE407 Network Flow 3
INE410 Motion & Time Study 3
INE442 Quality Control I 3
INE444 Inventory Analysis 3

Spring of Third Year 18 cr
CST301 Cultural Studies III 3
INE414 Human Factors in Engineering 3
INE434 Facilities Planning and Layout 4
INE443 Quality Control II 2
INE448 Machine Scheduling 3
INE450 Simulation 3

Sum I of Third Year 6 cr
GNE498 Professional Experience 6

FOURTH YEAR

Fall of Fourth Year 14 cr
INE436 Materials Handling 3
INE591 Project I 3
MEE401 Energy Systems 2
........ Technical Elective 3
........ Technical Elective 3

Spring of Fourth Year 13 cr
INE427 Project Scheduling 3
INE551 Advanced Simulation 4
........ Technical Elective 3
........ Technical Elective 3

TECHNICAL ELECTIVES
INE415 Occupational Safety 2
INE429 Project Contracting 3
INE502 Integer Programming 3
INE504 Nonlinear Optimization 3
INE521 Engineering Economy II 3
INE592 Project II 3
INE599 Topics in Industrial Engineering 3
MEE533 CAD/CAM 3
Or any other technically related course approved by the department.

MECHANICAL ENGINEERING

The Mechanical Engineering major has a broad base preparing students for a variety of careers calling for the design and construction of mechanical systems. Production, transformation, transmission and control of thermal and mechanical energy constitute one of the main tracks. This track, which relies on thermodynamics, fluid mechanics and heat transfer, leads to applications in internal combustion engines, steam and gas power plants and HVAC. Solid mechanics, kinematics, and dynamics of machinery lead to applications in vibrations control and machine design. The general area of manufacturing that is closely linked to industrial engineering is also covered. The program emphasizes the broad spectrum of applications of mechanical engineering, as well as the interaction with other engineering disciplines. Laboratory experimentation and computer simulation are used to train students on the understanding, design and testing of thermal and mechanical systems. The Mechanical Engineering Program requires the completion of 151 semester hours including the 70 credits of the common pre-engineering program.

While the program is credit based, a typical schedule over a four-year period including summer sessions is listed below. Students may select to take these courses over a longer period of time.

MECHANICAL ENGINEERING REQUIREMENTS

FIRST YEAR

Fall of First Year 17 cr
CHM201 Chemical Principles 3
COE201 Computer Proficiency 1
ENG202 Sophomore Rhetoric 3
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEE220 Engineering Graphics</td>
<td>4</td>
</tr>
<tr>
<td>MTH201 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>PHY211 Statics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Spring of First Year** 17 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE211 Computer Programming</td>
<td>4</td>
</tr>
<tr>
<td>CST201 Cultural Studies I</td>
<td>3</td>
</tr>
<tr>
<td>INF201 Learning Resources Techniques</td>
<td>1</td>
</tr>
<tr>
<td>MEE231 Material Properties &amp; Processes</td>
<td>3</td>
</tr>
<tr>
<td>MTH204 Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MTH206 Calculus IV</td>
<td>3</td>
</tr>
</tbody>
</table>

**SUMMER I OF FIRST YEAR** 6 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARA201 Appreciation of Arabic Literature</td>
<td>3</td>
</tr>
<tr>
<td>GNE333 Engineering Analysis I</td>
<td>3</td>
</tr>
</tbody>
</table>

**SECOND YEAR**

**FALL OF SECOND YEAR** 18 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE334 Engineering Analysis II</td>
<td>3</td>
</tr>
<tr>
<td>ELE305 Introduction to Electrical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MEE201 Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>MEE209 Instrumentation and Measurements</td>
<td>2</td>
</tr>
<tr>
<td>MEE311 Fluid Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHY311 Dynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

**SPRING OF SECOND YEAR** 16 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INE220 Engineering Economy I</td>
<td>3</td>
</tr>
<tr>
<td>MEE302 Energy Conversion</td>
<td>3</td>
</tr>
<tr>
<td>MEE304 Heat Transfer</td>
<td>4</td>
</tr>
<tr>
<td>MEE320 Strength of Material</td>
<td>3</td>
</tr>
<tr>
<td>MEE341 Kinematics &amp; Dynamics of Linkages</td>
<td>2</td>
</tr>
<tr>
<td>PED101 Basic Health</td>
<td>1</td>
</tr>
</tbody>
</table>

**SUMMER I OF SECOND YEAR** 6 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG201 Fundamentals of Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>...........................................</td>
<td>3</td>
</tr>
</tbody>
</table>

**SUMMER II OF SECOND YEAR** 5 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE331 Probability &amp; Statistics</td>
<td>3</td>
</tr>
<tr>
<td>PED... Physical Education</td>
<td>1</td>
</tr>
</tbody>
</table>

**THIRD YEAR**

**FALL OF THIRD YEAR** 17 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INE402 Optimization</td>
<td>3</td>
</tr>
</tbody>
</table>

**SPRING OF THIRD YEAR** 16 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST202 Cultural Studies II</td>
<td>3</td>
</tr>
<tr>
<td>MEE422 Mechanical Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>MEE405 Refrigeration and Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>MEE407 Internal Combustion Engines</td>
<td>4</td>
</tr>
<tr>
<td>MEE445 Control Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

**SUMMER II OF THIRD YEAR** 6 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNE498 Professional Experience</td>
<td>6</td>
</tr>
</tbody>
</table>

**FOURTH YEAR**

**FALL OF FOURTH YEAR** 11 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INE427/INE429 Project Scheduling / Contracting</td>
<td>3</td>
</tr>
<tr>
<td>MEE490 Energy Audit</td>
<td>2</td>
</tr>
<tr>
<td>MEE591 Project I</td>
<td>3</td>
</tr>
<tr>
<td>...........................................</td>
<td>3</td>
</tr>
</tbody>
</table>

**SPRING OF FOURTH YEAR** 12 cr

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST301 Cultural Studies III</td>
<td>3</td>
</tr>
<tr>
<td>...........................................</td>
<td>3</td>
</tr>
<tr>
<td>...........................................</td>
<td>3</td>
</tr>
<tr>
<td>...........................................</td>
<td>3</td>
</tr>
</tbody>
</table>

**TECHNICAL ELECTIVES**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>INE427/INE429 Project Scheduling / Contracting</td>
<td>3</td>
</tr>
<tr>
<td>MEE503 Power Plant Engineering</td>
<td>3</td>
</tr>
<tr>
<td>MEE505 Solar Systems</td>
<td>3</td>
</tr>
<tr>
<td>MEE513 Gas Turbines</td>
<td>3</td>
</tr>
<tr>
<td>MEE533 CAD/CAM</td>
<td>3</td>
</tr>
<tr>
<td>MEE543 Acoustics and Vibration Control</td>
<td>3</td>
</tr>
<tr>
<td>MEE592 Project II</td>
<td>3</td>
</tr>
<tr>
<td>MEE599 Topics in Mechanical Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Or any other technically related course approved by the department.</td>
<td></td>
</tr>
</tbody>
</table>
BACHELOR OF SCIENCE DEGREE PROGRAM

INTERIOR DESIGN

The Interior Design program proceeds from a similar set of premises common to all design fields. This approach is based on the interrelation between technical and theoretical studies centered around studio projects and supported by the latest design tools. The program also offers wide exposure to the particular opportunities in today’s market for interior designers, allowing designers to address projects of various scales and levels of complexity.

The dynamic environment created in the various design studios offers a wide range of perspectives in creative thinking, and is further supported by travelling studios, visiting critics and exchanges with design institutes worldwide.

The total number of credits required for graduation with a Bachelor of Science in Interior Design is 106 credits excluding the 30 credit hours taken in the Freshman year or a total of 136 credit hours including the Freshman credits.

This program may be completed in 4 academic years (after Freshman) including summer terms. Students may also elect to spread the program over a longer period of time.

GENERAL UNIVERSITY REQUIREMENTS 24 cr

MAJOR REQUIREMENTS

ARC251 Computer Aided Design I 3
ARC252 Computer Aided Design II 3
ART201 Fundamentals of Design I 3
ART202 Fundamentals of Design II 3
ART221 Drawing I 3
ART222 Drawing II 3
DES 101 Basic Studio Skills 3
DES 111 Interior Design I 3
DES 112 Interior Design II 3
DES 113 Render. & Persp. Techniques 3
DES 211 Interior Design III 3
DES 212 Interior Design IV 3
DES 119 Internship 3
DES 221 History of Arch. & Furn. 3
DES 224 History of Design 3
DES 311 Interior Design V 4
DES 312 Interior Design VI 4
DES 411 Interior Design VII 4
DES 412 Interior Design VIII 4
Total 61

SOCIAL SCIENCE ELECTIVES

Students must choose three Social Science courses among the following:

ECO 201 Micro Economics 3
ECO 202 Macro Economics 3
HUD 202 Psych. Of Young Child 3
POL 201 Intro. To Political Sc. 3
PSY 201 Intro. To Psychology 3
SOC 201 Intro. To Sociology 3
Other Social Science Courses 9

ART ELECTIVES

Students must chose 12 credits of the following courses as art electives:

ART 221 Drawing I 3
ART 222 Drawing II 3
ART 351 Sculpture I 3
ART 352 Sculpture II 3
ART 341 Painting I 3
ART 342 Painting II 3
ADV 211 Photography I 3
ART 331 History of Art I 3
ART 335 Islamic Art of M.E. 3
Total (for four courses) 12
ARCHITECTURE

ARC101 Basic Studio Skills I | 2-2 | 3 cr. Introduction to the basic tools of architectural communication and drafting techniques, with emphasis on two-dimensional representation of basic forms and shapes. The course covers orthographic projections, auxiliary projections & 2-D shades and shadows.

ARC102 Basic Studio Skills II | 2-2 | 3 cr. A continuation of ARC101 Basic Studio Skills I into the third dimension, with the translation of two-dimensional architectural plans & sections into 3-D models; isometric & axonometric projections, perspective. Prerequisite: ARC101 Basic Studio Skills I.

ARC201 Architectural Design I | 3-6 | 6 cr. An introduction to design as a conceptual and perceptual discipline, emphasizing the problem of form and volume in relation to scale, structure and other parameters, and introducing basic concepts such as balance, rhythm, pattern, texture, etc. Projects at this phase are of a general nature, not specifically architectural.

ARC202 Architectural Design II | 3-6 | 6 cr. A continuation of ARC201 Architectural Design I, with more complex problems of form and structure, developing the students’ capacity to analyze, and thus dissect certain forms into their elementary parts; and re-interpret these forms. This course will emphasize the craft of making, simultaneously with the students’ involvement in learning of techniques of wood shop. Prerequisite: ARC201 Architectural Design I.

ARC221 Materials and Construction Techniques | 2-0 | 2 cr. This course examines architecture through craft, techniques and forms associated with the basic building materials. Physical and structural properties of each material in relation to its manufacturing and construction methods and role in history will be examined in a descriptive way. Field trips to initiate the student to the whole cycle of construction will also be undertaken.

ARC222 Surveying | 1-4 | 3 cr. Projects involve actual site surveys performed in groups as well as theoretical lectures on the systems of mapping and photogrammetry.

ARC241 Introduction to Architecture | 2-0 | 2 cr. A foundation to the wide discipline of Architecture. Through a series of lectures that explain basic concepts and principles of art and architecture the student would be introduced to the basic grammar that will help in the active and poetic perception, analysis and synthesis of the environment. This course would also introduce students to the important artistic movements of the twentieth century in painting and sculpture.

ARC242 Architectural Theory I | 2-0 | 2 cr. An introduction to architecture as a cognitive activity related to the cultural and intellectual climate of its era, as well as to the tradition of architectural history. It builds on the student's knowledge in architectural history to discuss the ideas behind the development of the major paradigmatic shifts in history. The course focuses on some of the essential theoretical writings from the Renaissance to modern times, with an analytical examination of certain canonical works.

ARC243 Architectural Theory II | 2-0 | 2 cr. This course continues the theoretical exploration into the modern age, from “modernism” to the post-modern theories and into more recent thought in other fields which had a direct or indirect influence on developments in architecture. This course would also introduce students to the important medium of film which had an important impact on 20th century architecture. Prerequisites: ARC242 Architectural Theory I.
ARC251 Computer Aided Design I | 2-2 | 3 cr. Introduction to computer graphics in general, covering different applications in monochrome patterns, control and mix of colors, graphics and layout, and scanning. A number of projects will be assigned to cover these applications.

ARC252 Computer Aided Design II | 2-2 | 3 cr. This course specifically addresses computer software for architectural drafting, with its application in drafting of plans, sections, elevations and details, as well as applications in 3D modeling. Prerequisite: ARC251 Computer Aided Design I.

ARC253 Advanced CAD I | 2-2 | 3 cr. This course will develop the skills in 3-D computer modeling and rendering, with emphasis on presentation techniques of different materials and textures under different lighting conditions. Prerequisites: ARC252 Computer Aided Design II or Instructor's Approval.

ARC254 Computer Animation | 2-2 | 3 cr. This course will introduce techniques of handling animation as computerized walk-through-buildings, and other up to date applications of interior and exterior representation. Prerequisites: ARC252 Computer Aided Design II or instructor's approval.

ARC261 Rendering and Perspective | 2-2 | 3 cr. An advanced course that develops perspective drawing & rendering, as well as classical techniques of watercolor presentation and composition, with applications ranging from the classical orders to interior decoration.

ARC301 Architectural Design III | 3-6 | 6 cr. This studio introduces architectural problems of small scale, involving single-function projects as a means to investigate the relationships existing between formal structure and site, between space and human scale, and as a first passage from more abstract form-making in Design I & II, to more concrete issues. Prerequisite: ARC202 Architectural Design II.

ARC302 Architectural Design IV | 3-6 | 6 cr. A continuation of ARC301 Architectural Design III with thematic projects of small to medium scale, with more emphasis on issues of massing, function, proportion, and an understanding of basic structural materials and their limitations, within the framework of the continuing investigation of the relationship between thinking and making. Prerequisites: ARC301 Architectural Design III.

ARC311 Architectural Statics | 3-0 | 3 cr. Fundamental concepts of structural behavior, statics. Prerequisite: MTH102 Calculus II, PHY111 Mechanics.

ARC312 Strength of Materials | 3-0 | 3 cr. Fundamental concepts of structural behavior, strength of materials. Prerequisite: ARC311 Architectural Statics.

ARC321 Building Construction I | 2-0 | 2 cr. This course gives an overview of how the major components of a building (walls, openings, roof, floor) connect with each other through construction, as well as attention to joints, insulation, etc. It introduces different construction elements (vertical structure, bearing walls, pilotic, etc.) with various materials and discusses how the choice of a structural system and material affect the overall shape of a structure.

ARC322 Building Construction II | 2-0 | 2 cr. A continuation of ARC321 Building Construction I, focusing at a smaller scale on the different components of a construction system, breaking down the building into its smaller parts with 1:1 scale applications of detailed segments of major components such as masonry walls, windows, etc. with emphasis on their consequences and technical problems.

ARC331 Environmental Systems I | 3-0 | 3 cr. Study and design of drainage and plumbing systems for architectural applications, covering the different drainage systems and materials, cost and environmental factors.

ARC332 Environmental Systems II | 2-0 | 2 cr. Review of basic relationships in electric circuits with emphasis on power, energy, and methods of energy management, electric equipment ratings and capacity, modern wiring systems and their components, design methods for building electric systems. Lighting fundamentals, light sources and
their characteristics, lighting design and lighting applications including: cost factors, power budget, energy considerations and illumination methods.

**ARC341 History of Architecture I | 2-0 | 2 cr.** The course consists of lectures on the development of architecture from its origins in Mesopotamia & Egypt to its maturity in Greece and Rome. This course will involve a discussion of the various transformations and influences between eastern & western architecture until the time of the Roman conquest of the Near East and the gradual decline of the Roman Empire, choosing a representative collection of buildings from these periods to study.

**ARC342 History of Architecture II | 2-0 | 2 cr.** This course continues the exploration of architectural developments from the beginning of the Byzantine period to the surge of the Islamic architecture in the Near East and Spain, Romanesque and Gothic in the West, and culminating with the Renaissance age in Italy and Europe and its transformation into the Baroque and Rococo. Principal buildings that illustrate these periods will be discussed and studied.

**ARC343 History of Architecture III | 2-0 | 2 cr.** The course continues the exploration of architectural developments beginning with the Enlightenment and Neo-Classical architecture to the outset of the Modern Age. Study of the "modern" architecture question in the work and thought of Wagner, Sullivan, and others, leading to the development of this issue in Germany and the founding of the Bauhaus school until the break up of the second world war.

**ARC345 Regional Architecture I | 1-4 | 3 cr.** Historical and formal study, field survey and documentation of the regional architectural heritage including the traditional Lebanese house, with possible projects to include mapping of an entire village.

**ARC351 Shop I | 0-4 | 2 cr.** This shop lab will introduce the student to the tools and techniques of wood craftsmanship, through a series of small scale projects, and as a support to design studios projects.

**ARC362 Working Drawings and Specs. | 1-4 | 3 cr.** Preparation of a whole set of working drawings for the execution of a reasonable sized building from architectural plans to structural, electrical, and mechanical plans, with details at appropriate scale, and including the preparation of its specifications document. Prerequisite: ARC302 Architectural Design IV.

**ARC401 Architectural Design V | 3-6 | 6 cr.** Projects in this studio deal with a higher complexity in terms of scale, functions, site considerations, with an emphasis on materials and details of construction as well as the relation between formal structure on the one hand and social, cultural and behavioral values on the other. Prerequisite: ARC302 Architectural Design IV.

**ARC402 Architectural Design VI | 3-6 | 6 cr.** A sequential development of issues in ARC401 Architectural Design V, with a continuing emphasis on technological issues, as an application of the knowledge gained in structural and environmental courses, investigated through different themes of design projects, or through concentration on one project of high complexity. Prerequisite: ARC401 Architectural Design V.

**ARC411 Structural Systems I | 3-0 | 3 cr.** An introduction to structural analysis methods and the interaction between the design process and the analysis process, with typical applications taken from relevant and imaginative structures in steel and concrete, with an introduction to design codes, their philosophies and legal implications. Prerequisite: ARC312 Strength of Materials.

**ARC412 Structural Systems II | 3-0 | 3 cr.** A continuation of ARC411 Structural Systems I with more emphasis on the design of specific structural elements in detail according to applicable codes, with examples from different codes and materials, and specifically, examples that apply for current architectural forms and materials. Introduction
of soil mechanics and the effect of soils on specific structural elements such as foundations, retaining walls; and their implications on the different types of structural systems. Prerequisite: ARC411 Structural Systems I.

**ARC421 Building Construction III | 2-0 | 2 cr.** This course goes deeper into the analysis of traditional construction materials such as concrete, brick, wood etc. through drawing details exercises. It focuses on the specific characteristic of each material and its compatibility with other materials and its physical treatment and different possibilities of its finishing, exterior and interior.

**ARC422 Shop II | 0-4 | 2 cr.** A continuation of ARC351 Shop I, with more complex problems of woodcraft, and/or introduction to metal working.

**ARC423 Architectural Model Making | 1-4 | 3 cr.** A practical workshop that deals with a variety of techniques and materials for constructing architectural presentation models.

**ARC431 Environmental Systems III | 3-0 | 3 cr.** Heating, ventilation and air conditioning systems and their design. Applications should emphasize problems encountered by architects dealing with projects of limited scope, and the different systems in use, in relation to cost, environmental factors, etc.

**ARC432 Environmental Systems IV | 2-0 | 2 cr.** Study and analysis of sound and acoustics in architectural interiors. Acoustics of spaces with a variety of applications, materials and components. Systems of noise reduction or sound amplification in specialized uses.

**ARC501 Architectural Design VII | 3-6 | 6 cr.** This studio is a prelude to the questions that will be raised in the final thesis, thus opening the problem of design to its multiple layers simultaneously, from scale and formal structure to technological & construction issues, while emphasizing the urban dimension within the framework of a “thoughtful making” of space. Prerequisite: ARC402 Architectural Design VI.

**ARC502 Architectural Design VIII | 3-6 | 6 cr.** This studio course continues the preparations for the final year of thesis, by exposing the student to problems of complex nature, taking the city as its laboratory. This studio builds on the process initiated in ARC501 Architectural Design VII and in Urban Planning courses and attempts to expand them and find actual applications to urban issues through competitions or current design problems. Prerequisite: ARC501 Architectural Design VII.

**ARC521 Building Construction IV | 2-0 | 2 cr.** Analysis of steel and glass constructions, their detailing, maintenance and other issues, as well as new construction materials and products. This course also covers the resistance of a material through time and the possibility of determining its weathering and obsolescence early in the design process.

**ARC531 Introduction to Landscape Design | 3-0 | 3 cr.** An introduction to the discipline of landscape design, with lectures on the environmental and ecological impacts of our activities, as well as the basic rules and principles of designing artificial landscapes including planting specifications, site analysis, and garden maintenance. This course is a combination of lectures and studio projects of limited scope as applications to the lectures. Prerequisite: Fourth year standing.

**ARC532 Urban Planning I | 3-0 | 3 cr.** A historical survey of the city as a complex system and construct subject to transformations in its physical form, in relation to economic and political values. This introduction will also stress the historical development of urbanism in the 20th century, from architectural ideals of modernists to the empirical and social studies of planners and sociologists; with a broad overview of large scale urban projects in the world today. Prerequisite: Fourth year standing.

**ARC533 Urban Planning II | 3-0 | 3 cr.** A more advanced course that focuses on actual planning issues and problems, urban and regional zoning, demographic projections and their effect on city development, the planning
process and its political connotations, emphasizing the latest technologies in city-mapping and projections. Case studies would be presented and projects of limited scope may be assigned as applications to the theories introduced in class. Prerequisite: ARC532 Urban Planning I.

ARC541 Contemporary Trends in Architecture | 2-0 | 2 cr. Architectural trends and theories from the end of World War II until the present, passing by the momentous reactions against "modernism" in the 1960's and 1970's from "Post-Modernism" to "Regionalism" and the eventual return of a "neo-modernism" in the 1990's. The major actors and movements of these actions and reactions in Western and non-Western cultural climates will be studied.

ARC542 Architectural Economics | 3-0 | 3 cr. An introductory course to the basics of cost estimate for a project, cash-flow, financial analysis, cost projections; as well as management principles for running an architectural practice.

ARC551 Office Practice | 0-12 | 6 cr. A summer of off-campus practical experience in professional firms approved by the department, with required documentation in a specified report format of all work performed by the student to be submitted at the end of the summer term.

ARC601 Architectural Design IX | 3-6 | 6 cr. In this studio, students begin the first phase of their final thesis. The first phase of thesis is composed of research & documentation, development of a project program, project proposal, analysis and schematic design proposal. Students will go through a jury review at the end of the semester to determine the validity and potential of their proposals. Prerequisites: ARC502 Architectural Design VIII and advisory clearance.

ARC602 Architectural Design X | 3-6 | 6 cr. In the second and final phase of thesis, the student proceeds to develop a full set of architectural drawings, supported by models and 3-D representations to convey the project proposed. A collective final review at the end of the semester determines whether a student has completely fulfilled the requirements of thesis. Prerequisites: ARC601 Architectural Design IX and advisory clearance.

ARC641 Codes, Laws and Contracts | 2-0 | 2 cr. Examination and application of local building codes, with comparative examples of impact of building laws as applied locally versus others applied internationally. How to prepare contracts for local and regional projects, and the liability factors associated with the contemporary practice of architecture locally and internationally. Prerequisite: Third year standing.

ARC652 Seminar | 3-0 | 3 cr. A seminar course in which discussion of current issues is addressed by guest speakers who expose students to a wide range of questions in architectural practice in particular and in other cultural fields in general. Prerequisite: Fifth year standing.

ARC653 Summer Exchange Program | 1-4 | 3 cr. In collaboration with other schools in Italy, Denmark, or Spain, summer studio courses in advanced design combining historical studies at these institutions offer the student wider exposure to the practice and study of architecture. The course combines design projects, lectures in history and theory as well as field trips.

ARC654 Travelling Studio | 0-6 | 3 cr. A studio course consisting of a study abroad itinerary, with a program to visit and analyze major works of classical and modern architecture in Italy, France and Germany. This studio combines lectures in history and theory as well as field trips.

ARC655 Visiting Critics Studios | 3-6 | 6 cr. This is an elective course for those wishing to remain on campus during the summer, and deals with a variety of architectural problems, under the instruction of a visiting international critic. Prerequisite: Fifth year standing.
ENGINEERING

GENERAL ENGINEERING COURSES

GNE301 Professional Communication | 2-0 | 2 cr. English language proficiency; business letter writing; memo writing; report presentation and writing, etc. Use of presentation software. Prerequisite: ENG202 Sophomore Rhetoric.

GNE331 Probability & Statistics | 3-0 | 3 cr. Set theory; probability axioms; random variables (RV); continuous & discrete probability density functions; distributions; operations on RVs, sampling distributions; confidence intervals (single variable); hypothesis testing (single variable); linear regression (single variable); non-linear regression. Prerequisite: MTH206 Calculus IV.

GNE333 Engineering Analysis I | 3-0 | 3 cr. Vector spaces; matrix algebra; solution of linear systems with numerical applications; eigenvalues and eigenvectors and applications; nonlinear equations and systems with numerical solutions; numerical integration. Prerequisite: MTH206 Calculus IV.

GNE334 Engineering Analysis II | 3-0 | 3 cr. Vector-Integral calculus; Gauss-Stokes theorem; introduction to partial differential equations; Fourier series and Fourier integral; numerical solution of ordinary and partial differential equations. Prerequisites: MTH204 Differential Equations, GNE333 Engineering Analysis I.

GNE498 Professional Experience | 0-6 | 6 cr. Professional experience through training in the execution of real-life engineering projects. Prerequisite: Final Year Standing and Instructor Consent.

CIVIL ENGINEERING

CIE201 Geology for Engineering | 2-0 | 2 cr. Introduction to geological processes, identification of rocks & soils and their properties, use and interpretation of topographical & geological maps.

CIE203 Water Quality | 1-6 | 3 cr. Engineers and water quality, fundamental quantities, acids and bases, titration, primary standards, precipitate formation, colorimetric analysis, chromatographic analysis, determination of organic matter, identification and enumeration of microorganisms, toxicity elements, contaminants, taste and odor, bases for standards, drinking water standards, wastewater quality guidelines, and possible mathematical models. Prerequisite: CHM201 Chemical Principles.

CIE301 Mechanics of Materials | 3-0 | 3 cr. Free body diagrams, equilibrium of simple structures, shear & bending moment diagrams. Prerequisite: PHY211 Statics.


CIE403 Structures I | 3-0 | 3 cr. Analytical methods of structural analysis, influence lines, deflection. Prerequisite: CIE301 Mechanics of Materials.

CIE404 Stress Analysis | 2-3 | 3 cr. Stress and strain at a point, curved beams, shear center, columns, theories of failure and dynamic loads. Laboratory Work. Prerequisite: CIE403 Structures I.

CIE405 Concrete Structures I | 3-0 | 3 cr. Reinforced concrete, design and analysis of beams, one-way slabs, T-Beams, doubly reinforced beams. Development length and splice of steel bars. Prerequisite: CIE403 Structures I.

CIE406 Structures II | 3-0 | 3 cr. Slope deflection, moment distribution, indeterminate structural analysis. Prerequisite: CIE403 Structures I.
### CIE411 Surveying | 2-3 | 3 cr.
Fundamentals of field surveying measurements. Theory, selection and use of surveying instruments. Theories used in the adjustment of surveys. Prerequisite: MTH101 Calculus I.

### CIE413 Transportation Engineering I | 3-0 | 3 cr.
Introduction to man-machine-road concept. Elements of roadway location & geometric design. Prerequisite: CIE411 Surveying.

### CIE421 Fluid Mechanics | 3-0 | 3 cr.
Fluid statics, analysis of fluid motion using the continuity, energy & momentum relationship. Introduction to viscous flows. Prerequisite: PHY311 Dynamics.

### CIE422 Hydraulics | 2-3 | 3 cr.
Analysis of fluid motion using the continuity, momentum, & energy principles. Incompressible flow in pipes and open channels. Laboratory work. Prerequisite: CIE421 Fluid Mechanics.

### CIE441 Project Scheduling | 2-3 | 3 cr.
Basic critical path planning and scheduling with arrow and precedence networks; introduction to resource leveling and least cost scheduling including time-cost tradeoff analysis; schedule control. Prerequisites: GNE498 Professional Experience, fourth year standing.

### CIE442 Project Contracting | 2-3 | 3 cr.
Construction contracting for contractors, owners and engineers. (1) Industry structure; (2) Types of contracts and delivery systems of construction; (3) Planning, estimating; quantity takeoff and pricing; labor and equipment estimate; (4) Proposal preparation; students use contract documents to prepare detailed estimate. Prerequisites: GNE498 Professional Experience, fourth year standing.

### CIE451 Environmental Engineering I | 3-3 | 4 cr.
Thorough presentation of the theory and applications of the design of water distribution systems and related appurtenances, methods of distribution, storage, required pressure, system maintenance, protection of water quality in distribution systems, quantity of water, relation between quantity and population; population estimation; water use factors; fire demand; and design periods, in addition to water treatment techniques: purpose; sedimentation; hindered settling; scour; coagulation/flocculation processes; basin design; filtration; disinfections; chemical feeding methods; organic contaminants; algae control; activated carbon; aeration; softening; and fluoride addition or removal. Prerequisites: CIE203 Water Quality, CIE422 Hydraulics.

### CIE501 Soil Mechanics | 3-3 | 4 cr.
Introduction to soil properties and behavior, emphasis on relating soil properties to compressibility and shear strength of soils. Laboratory work. Prerequisites: CIE201 Geology for Engineering, CIE301 Mechanics of Materials.

### CIE502 Foundation Engineering | 3-0 | 3 cr.
Introduction to exploration & engineering evaluation of subsoil & water conditions for selection & design of foundations for structures & earth masses. Prerequisites: CIE501 Soil Mechanics.

### CIE503 Steel Structures | 3-0 | 3 cr.
Analysis & design of metal structures, with emphasis on members & joints. Prerequisites: CIE403 Structures I.

### CIE505 Structural Dynamics | 3-0 | 3 cr.
Dynamics effects of wind, earthquake, impact and blast loading. Vibration of structural components. Damping effects. Prerequisites: CIE406 Structures II.

### CIE506 Concrete Structures II | 3-0 | 3 cr.
Shear & torsional reinforcement. Design of stairs. Two way column supported slabs. Design of columns, footings, foundation, & retaining walls. Prerequisites: CIE405 Concrete Structures I, CIE406 Structures II.

### CIE507 Prestressed Concrete | 3-0 | 3 cr.
Design of pre-stressed concrete structures with emphasis on flexural design of beams and slabs. Prerequisite: CIE506 Concrete Structures II.

### CIE509 Applied Elasticity | 3-0 | 3 cr.
Tensor notation, analysis of stress. Two dimensional elasticity, bending of beams, torsion of prismatic bars, asymmetrically loaded members, beams on elastic foundations, elastic stability. Prerequisite: CIE404 Stress Analysis.
CIE511 GIS & Remote Sensing | 3-0 | 3 cr. Fundamentals of sensing earth resources, data acquisition and analysis, aircraft and satellite images, digital image processing, pattern recognition, feature extraction, geographic information systems in various applications, using GIS software including ARC-INFO and ARCVIEW. Prerequisite: CIE411 Surveying.

CIE514 Transportation Engineering II | 3-0 | 3 cr. Infrastructure Systems. Interchanges, intersections execution methods & practices. Basic design of major transportation facilities. Prerequisite: CIE413 Transportation Engineering I.

CIE515 Traffic Engineering | 3-0 | 3 cr. Human and vehicular characteristics as they affect highway traffic flow, traffic regulations, accident cause and prevention, improving flow on existing facilities, planning traffic systems, terminal problems. Prerequisite: CIE413 Transportation Engineering I.


CIE523 Hydrology | 3-0 | 3 cr. Thorough presentation of the theory and applications of the occurrence, distribution, movement, and properties of the water through the analysis of: precipitation, interception and depression storage, infiltration, evaporation and transpiration, snow melt, subsurface flow, well hydraulics, stream flow, hydrologic data sources, instrumentation and monitoring networks, runoff and hydrographs, urban hydrology, hydrograph routing, probability in hydrologic design, and introduction to hydrologic modeling. Prerequisites: CIE422 Hydraulics, GNE331 Probability & Statistics.

CIE524 Groundwater Engineering | 3-0 | 3 cr. Flow of incompressible fluids through porous media, groundwater movement, Darcy’s law, groundwater production, recharge, quality, saltwater intrusion, aquifer management, differential equations governing the flows, laboratory and field methods of hydraulic conductivity measurements, confined and unconfined flow, graphical flow nets and the use of analogs, seepage control in earth structures, soil stabilization, drainage, geo-textiles, and construction denaturing. Prerequisites: CIE523 Hydrology.

CIE531 Introduction to Finite Elements Analysis | 3-0 | 3 cr. Introduction to finite element theory and formulation. Software applications to mechanics problems. Prerequisites: CIE403 Structures I, GNE333 Engineering Analysis I, GNE334 Engineering Analysis II.

CIE532 CAD / CAE | 3-0 | 3 cr. Computer applications in civil engineering. Prerequisite: Senior standing.

CIE541 Construction Methods | 2-3 | 3 cr. Material selection, construction details, manufacture, fabrication, and erection of building structures using steel, cast-in-place concrete, pre-cast concrete, and masonry. Prerequisite: CIE401 Construction Materials, CIE405 Concrete Structures I.

CIE542 Cost Engineering & Control | 3-0 | 3 cr. Cost engineering for construction organizations, projects, and operations. Construction financing; break-even, profit, and cash flow analyses; capital budgeting. Equipment cost and procurement decisions. Construction financial accounting, cost accounting, cost control systems, databases. Cost indices, parametric estimates, unit price proposals, measuring work and settling claims. Prerequisites: CIE442 Project Contracting, fourth year standing.

CIE552 Environmental Engineering II | 3-0 | 3 cr. Theory and applications of the design of sanitary and storm sewers and related appurtenances, combined and separate sewers, sources of sewage, liability for damages caused by sewage, fluctuation of flow, design periods, design requirements for sanitary and storm sewers, characteristics of wastewater, variability; physical and chemical, solids determination, biochemical oxygen demand, chemical oxygen demand, total organic carbon, in addition to wastewater treatment systems including preliminary; primary; sec-
CIE553 Urban Water Resources | 3-0 | 3 cr. Urban climate; urban development effects on catchments responses; design of storm water drainage systems; master plans; management for water pollution, sedimentation, and erosion control; use of models for planning and operation; flood control; reservoir design and operation (linear and dynamic programming); and case studies. Prerequisites: CIE203 Water Quality, CIE422 Hydraulics.

CIE556 Advanced Environmental Engineering | 3-0 | 3 cr. Reaction kinetics, classes and types of reactions, rates and orders, analysis of experimental data, applications, setup of mass balances, flow analysis of CM and PF regimes, detention time in vessels, flow and quality equalization, system material balances, sludge production in activated sludge systems, nitrogen and phosphorus removal, treatment in ponds and wetlands as well as natural systems, fate and transport of pollutants in natural waters, loading equations for streams, dissolved oxygen variation in a stream. Prerequisites: CIE451 Environmental Engineering I, CIE552 Environmental Engineering II.

CIE558 Solid Waste | 3-0 | 3 cr. Analysis of the quantity and quality of residues produced from municipal and industrial solid waste and water and wastewater treatment plants, pollution control management, collection, transfer, disposal, treatment and recovery of solid wastes, alternatives for reclaiming or disposing of hazardous and non-hazardous residues with assessment of potential environmental impacts and factors influencing the magnitude of those impacts, considerations in selection and integration of solid waste management processes to approach optimal design, environmental legislation and risk assessment. Prerequisites: CIE451 Environmental Engineering I.

CIE598 Project I | 3-0 | 3 cr. Ability to show competence in at least one area of civil engineering through a comprehensive design project or one extended research project in a certain area. Prerequisite: Final year standing and consent of instructor.

CIE599 Project II | 3-0 | 3 cr. Ability to show competence in at least one area of civil engineering through a comprehensive design project or one extended research project in a certain area. Prerequisite: Final year standing and consent of instructor.

CIE600 Topics in Civil Engineering | 3-0 | 3 cr. Treatment of new development in various areas of civil engineering. Prerequisite: Final year standing and consent of instructor.

COMPUTER ENGINEERING

COE201 Computer Proficiency | 0-2 | 1 cr. Word processing; spreadsheet; presentation software; internet; email; database; web design.

COE211 Computer Programming | 3-2 | 4 cr. Master one language syntax; structured programming; basic constructs; arrays; object programming; case studies; projects. Prerequisite: COE201 Computer Proficiency.

COE312 Data Structures | 3-0 | 3 cr. Programming principles; stacks and recursion; queues; lists; searching and sorting algorithms; binary trees; introduction to object oriented programming concepts. Prerequisite: CSC216 Computer Programming II.

COE314 File Processing | 3-0 | 3 cr. Data transfer; sequential files; indexed files; tree-based files; multi-list and inverted files. Prerequisite: COE312 Data Structures.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Hours</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>COE321</td>
<td>Logical Design + Lab</td>
<td>4 cr.</td>
<td>3-3</td>
<td>Digital signals; binary numbers; logic numbers; combinational logic design; boolean algebra; MSI building blocks; arithmetic circuits; flip flops; sequential state machines; registers; shift registers; counters; asynchronous logic; synchronous logic. Prerequisites: CSC216 Computer Programming II or COE211 Computer Programming, ELE302 Electrical Circuits II.</td>
<td></td>
</tr>
<tr>
<td>COE323</td>
<td>Microprocessor + Lab</td>
<td>4 cr.</td>
<td>3-3</td>
<td>Microprocessors and assembly language; storing; manipulating; moving data; basics of control flow; interfacing to analog and/or digital devices; device drivers Development. Prerequisites: CSC216 Computer Programming II or COE211 Computer Programming, ELE302 Electrical Circuits II.</td>
<td></td>
</tr>
<tr>
<td>COE414</td>
<td>Operating Systems</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Process management; process synchronization; process communications; process scheduling; disk management; security and protection. Prerequisite: COE312 Data Structures.</td>
<td></td>
</tr>
<tr>
<td>COE416</td>
<td>Software Engineering</td>
<td>3 cr.</td>
<td>0-3</td>
<td>S/W analysis; development; design; documentation. Prerequisite: COE312 Data Structures.</td>
<td></td>
</tr>
<tr>
<td>COE418</td>
<td>Database Systems</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Data modeling; relational database; SQL; query languages; object oriented databases; client-server databases. Prerequisite: COE312 Data Structures.</td>
<td></td>
</tr>
<tr>
<td>COE423</td>
<td>Computer Architecture</td>
<td>3 cr.</td>
<td>0-3</td>
<td>General data path design techniques; instruction set design; general control path design techniques; hardwired control; microprogrammed control; basic pipelined techniques for datapath and control design. Prerequisites: COE321 Logical Design + Lab, COE323 Micro-Processor + Lab.</td>
<td></td>
</tr>
<tr>
<td>COE424</td>
<td>Reconfigurable Computing</td>
<td>4 cr.</td>
<td>3-3</td>
<td>Introduction to VLSI design and digital testing; rapid prototyping using reconfigurable architectures; field programmable gate arrays (FPGA’s); design abstractions; design style; high-level design methodologies; RTL and system level design. Prerequisite: COE321 Logical Design + Lab.</td>
<td></td>
</tr>
<tr>
<td>COE431</td>
<td>Computer Networks</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Networks; topologies; installation and configuration; testing; modeling and simulating networks; protocols; standards; TCP/IP; socket programming. Prerequisite: COE414 Operating Systems.</td>
<td></td>
</tr>
<tr>
<td>COE511</td>
<td>Object Oriented Programming</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Object oriented techniques for analysis, design and implementation. Prerequisite: COE312 Data Structures.</td>
<td></td>
</tr>
<tr>
<td>COE525</td>
<td>Advanced Computer Architecture</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Advanced pipelined techniques and scheduling (ILP, hazards); instruction level parallelism; dynamic scheduling; VLIW; software pipelining and other advanced computer architecture topics. Prerequisite: COE423 Computer Architecture.</td>
<td></td>
</tr>
<tr>
<td>COE527</td>
<td>VLSI</td>
<td>3 cr.</td>
<td>0-3</td>
<td>VLSI design; circuits layout; timing; delay; power estimation; use of layout editors and circuit simulation tools; synthesis; introduction to electronic design automation. Prerequisite: COE321 Logical Design + Lab.</td>
<td></td>
</tr>
<tr>
<td>COE533</td>
<td>Advanced Computer Networks</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Advanced networks; remote procedure calls (RPCs); layering; ISO. Prerequisite: COE431 Computer Networks.</td>
<td></td>
</tr>
<tr>
<td>COE591</td>
<td>Project I</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Selected engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.</td>
<td></td>
</tr>
<tr>
<td>COE592</td>
<td>Project II</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Advanced engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.</td>
<td></td>
</tr>
<tr>
<td>COE599</td>
<td>Topics in Computer Engineering</td>
<td>3 cr.</td>
<td>0-3</td>
<td>Treatment of new development in various areas of computer engineering. Prerequisite: Final year standing and consent of instructor.</td>
<td></td>
</tr>
</tbody>
</table>
**ELECTRICAL ENGINEERING**

**ELE201 Electrical Circuits I | 3-0 | 3 cr.** Resistors; capacitors and inductors; transformers; voltage & current sources; operational amplifiers; voltage and current laws; node and mesh analysis; network theorems; power and energy; three-phase circuits; DC and sinusoidal excitation of circuits; Computer-Aided circuit simulation (SPICE). Prerequisite: PHY201 Electricity & Magnetism.

**ELE302 Electrical Circuits II + Lab | 3-3 | 4 cr.** Frequency-domain response of circuits; transfer functions; resonant circuits and filter designs; time-domain response of circuits; step, impulse and ramp responses; linearity and time invariance; input-output descriptions of circuits; parameter representation of two-ports networks; Computer-Aided circuit simulation (SPICE). Prerequisites: ELE201 Electrical Circuits I, MTH204 Differential Equations.

**ELE305 Introduction to Electrical Engineering | 3-0 | 3 cr.** Study of AC/DC electrical circuits; single-phase and three-phase systems; basic electronics; survey of AC/DC machines. Prerequisite: Second year standing.

**ELE401 Electronics I + Lab | 3-3 | 4 cr.** Semiconductors; diodes; transistors; integrated circuits; operational amplifiers; Computer-Aided circuit simulation (SPICE). Prerequisite: ELE302 Electrical Circuits II.

**ELE411 Electromagnetic Fields | 3-0 | 3 cr.** The electromagnetic model; vector analysis; static electric fields; static magnetic fields. Prerequisite: PHY201 Electricity & Magnetism.

**ELE413 Electromagnetic Waves | 3-0 | 3 cr.** Time-varying fields and Maxwell’s equations; plane electromagnetic waves; transmission lines; wave guides; Antennas. Prerequisites: ELE201 Electrical Circuits I, ELE411 Electromagnetic Fields.

**ELE420 Electromechanics | 3-0 | 3 cr.** Magnetic circuits; power transformers; DC machines; induction machines; synchronous machines. Prerequisites: ELE201 Electrical Circuit I, ELE411 Electromagnetic Fields.

**ELE422 Power Systems + Lab | 3-3 | 4 cr.** Complex power; power triangle; per unit system; power system components models; admittance model and network calculations; power-flow solutions, economic dispatch. Prerequisite: ELE420 Electromechanics.

**ELE430 Signals and Systems | 3-0 | 3 cr.** Signal and system modeling concepts; system modeling and analysis in time domain; the Fourier series; the Fourier transform and its applications; the Laplace transformation and its applications; discrete-time signals and systems; analysis and design of digital filters; DFT and FFT. Prerequisite: ELE302 Electrical Circuits II + Lab.

**ELE442 Control Systems + Lab | 3-3 | 4 cr.** Modeling and dynamical systems; transient-response analysis; response of control systems; root locus analysis; modern control (state space). Prerequisite: MEE430 Signals and Systems.

**ELE502 Electronics II | 3-0 | 3 cr.** Differential and multi-stage amplifiers; frequency response; feedback topologies; power amplifiers; filters and tuned amplifiers; MOS digital circuits; Computer-Aided circuit simulation (SPICE). Prerequisite: ELE401 Electronics I + Lab.

**ELE525 Faulted Power System | 3-0 | 3 cr.** Impedance model; three-phase symmetrical faults; symmetrical components; unsymmetrical faults. Prerequisite: ELE422 Power Systems + Lab.

**ELE527 Power Electronics | 3-0 | 3 cr.** Power semiconductor devices; controlled rectifiers; AC voltage controllers; choppers; inverters; cycloconverters. Prerequisites: ELE401 Electronics I + Lab, ELE420 Electromechanics.
ELE528 Electrification of Plants | 3-0 | 3 cr. Short circuit analysis; electric plant layouts; power distribution systems; lighting and auxiliary system design. Prerequisites: ELE422 Power Systems + Lab, MEE220 Engineering Graphics.

ELE537 Communication Systems + Lab | 3-3 | 4 cr. Linear and angle modulation/demodulation; feedback demodulators (PLL); analog and digital pulse modulation; interference; multiplexing. Prerequisite: ELE430 Signals and Systems.

ELE538 Noise in Communication Systems | 3-0 | 3 cr. Physical noise sources; noise calculations in communication systems; stochastic processes; communication systems performance in the presence of noise. Prerequisite: ELE537 Communication Systems + Lab.

ELE539 Telecommunication Systems | 3-0 | 3 cr. Spread spectrum and data communications; microwave and satellite links; optical fiber; mobile radio systems. Prerequisite: ELE537 Communication Systems + Lab.

ELE544 Feedback Control | 3-0 | 3 cr. Frequency-response analysis; control systems design by frequency response; PID controls; introduction to robust control. Prerequisite: ELE442 Control Systems + Lab.

ELE591 Project I | 3-0 | 3 cr. Selected engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.

ELE592 Project II | 3-0 | 3 cr. Advanced engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.

ELE599 Topics in Electrical Engineering | 3-0 | 3 cr. Treatment of new development in various areas of electrical engineering. Prerequisite: Final year standing and consent of instructor.

INDUSTRIAL ENGINEERING

INE302 Linear Programming | 3-0 | 3 cr. Formulation of linear programming problems; Simplex method; Duality and sensitivity analysis. Prerequisite: GNE333 Engineering Analysis I.

INE304 Stochastic Processes | 3-0 | 3 cr. Markov decision processes and chains stochastic processes. Prerequisite: GNE331 Probability & Statistics.

INE306 Decision Analysis | 3-0 | 3 cr. Decision analysis; game theory; Bayesian decision theory; utility theory. Prerequisite: GNE331 Probability & Statistics.

INE320 Engineering Economy I | 3-0 | 3 cr. Equivalence and interest formulae; real world transactions; present worth analysis; annual equivalent worth; rate of return analysis; depreciation; inflation; cost/benefit ratio. Prerequisite: Sophomore standing.

INE340 Advanced Statistics | 3-0 | 3 cr. Single factor experiments; randomized blocks; Latin squares; introduction to factorial designs; 2k factorial blocking and confounding; forecasting. Prerequisites: GNE331 Probability & Statistics.

INE345 Production Control | 4-0 | 4 cr. Forecasting; Capacity planning; Aggregate planning; Line balancing; Financial analysis. Prerequisites: INE302 Linear Programming, INE320 Engineering Economy I, GNE331 Probability & Statistics.
INE402 Optimization | 3-0 | 3 cr. Queuing theory & models; linear programming; integer programming; transportation/allocation; assignment; inventory; annealing; networks; dynamic programming; forecasting; simulation techniques. Prerequisite: GNE333 Engineering Analysis I.

INE407 Network Flow | 3-0 | 3 cr. networks; shortest/longest path; decision trees; network flow. Prerequisite: INE302 Linear Programming.

INE410 Motion & Time Study | 2-2 | 3 cr. Graphic tools and operation analysis; worker and machine relationship; motion study and time study; performance rating allowances; standard data; work sampling; overview of ISO standards. Prerequisite: Third year standing.

INE414 Human Factors in Engineering | 3-0 | 3 cr. Information input and processing; auditory and visual and tactual displays; motor skills; human factors in systems design; physical work and MMH; hand tools and devices; work place design; illumination; climate and noise considerations. Prerequisite: Third year standing.

INE415 Occupational Safety | 2-0 | 2 cr. Eliminating and controlling hazards; system safety; expert systems and accident reconstruction methodologies. Prerequisites: INE410 Motion and Time Study, INE414 Human Factors in Engineering.

INE427 Project Scheduling | 2-2 | 3 cr. Basic critical path planning and scheduling with arrow and precedence networks; introduction to resource leveling and least cost scheduling including time-cost tradeoff analysis; schedule control. Prerequisites: Fourth year standing, professional experience.

INE429 Project Contracting | 2-2 | 3 cr. Construction contracting for contractors, owners and engineers. (1) Industry structure; (2) Types of contracts and delivery systems of construction; (3) Planning, estimating; quantity takeoff and pricing; labor and equipment estimate; (4) Proposal preparation; students use contract documents to prepare detailed estimate. Prerequisite: Fourth year standing, professional experience.

INE434 Facilities Planning and Layout | 4-0 | 4 cr. Process product and schedule design; determining activity relationships and space requirements; mathematical layout models and computerized layout algorithms; location and assignment models; storage spaces and warehouse design; design of non-manufacturing facilities; airport design; evaluation of alternative design. Prerequisite: INE302 Linear Programming.

INE436 Materials Handling | 3-0 | 3 cr. Materials handling equipment; selection and design of material handling systems; simulation; interface with facilities layout. Prerequisites: INE302 Linear Programming, INE304 Stochastic Processes, INE434 Facilities Planning and Layout.

INE442 Quality Control I | 3-0 | 3 cr. Modeling process quality; inferences about process quality; statistical process control; types of control charts; acceptance sampling; process capability analysis. Prerequisite: GNE331 Probability & Statistics.

INE443 Quality Control II | 1-2 | 2 cr. Application of SPC tools to control process quality in a real manufacturing setting; introduction to TQM/ISO standards. Prerequisite: INE340 Advanced Statistics, INE442 Quality Control I.

INE444 Inventory Analysis | 3-0 | 3 cr. Continuous/periodic/deterministic/stochastic inventory models; materials requirements planning (MRP); just-in-time production systems; assembly systems; flexible manufacturing distribution systems. Prerequisites: INE304 Stochastic Processes, INE345 Production Control.

INE448 Machine Scheduling | 2-2 | 3 cr. Basic single machine problem (BSMP); flow shop scheduling with setup cost (TSP); vehicle routing. Prerequisite: INE302 Linear Programming.
INE450 Simulation | 2-2 | 3 cr. Random number generation; random variate generation; components of discrete event simulation; learning simulation software; simulation of simple systems: queuing, inventory, manufacturing, QC, transportation, layout. Prerequisite: INE304 Stochastic Processes.

INE502 Integer Programming | 3-0 | 3 cr. Integer programming; general search techniques. Prerequisite: INE302 Linear Programming.

INE504 Nonlinear Optimization | 3-0 | 3 cr. Nonlinear/continuous optimization methods. Prerequisites: INE302 Linear Programming, INE304 Stochastic Programming.

INE521 Engineering Economy II | 3-0 | 3 cr. Dealing with uncertainty; breakeven analysis; sensitivity analysis; probabilistic risk analysis; accounting principles. Prerequisites: INE320 Engineering Economy I, GNE331 Probability and Statistics.

INE551 Advanced Simulation | 3-2 | 4 cr. Analysis of simulation data: input and output; Validation and verification of system design; comparing alternative system configuration; simulation of complex systems; case studies. Prerequisite: INE450 Simulation.

INE591 Project I | 3-0 | 3 cr. Selected engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.

INE592 Project II | 3-0 | 3 cr. Advanced engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.

INE599 Topics in Industrial Engineering | 1-3 | cr. Treatment of new development in various areas of industrial engineering. Prerequisite: Final year standing and consent of instructor.

MECHANICAL ENGINEERING

MEE201 Thermodynamics | 3-0 | 3 cr. Basic concepts of work and heat; systems and control volumes; pure substances; equation of state; first law for systems; steady flow energy equation; second law for systems and control volume; entropy. Prerequisite: Sophomore standing.

MEE220 Engineering Graphics | 2-4 | 4 cr. Basic engineering drawing; CAD proficiency; sketching and schematics.

MEE290 Instrumentation and Measurements | 1-3 | 2 cr. Data acquisition; design of experiments and laboratory safety; selection of instruments for experiments; informal and formal report writing; statistics of large samples applied to fixed and dynamic response of instruments; use of instrumentation software. Prerequisite: Third year standing.

MEE302 Energy Conversion | 3-0 | 3 cr. Performance and design considerations of energy conversion systems; design and performance problems involving steam, gas turbine, and combined cycle power plants, and reciprocating and rotary engines. Prerequisite: MEE201 Thermodynamics.

MEE304 Heat Transfer | 3-3 | 4 cr. Transfer of heat by conduction; radiation and convection; analysis of steady state and simple transient heat processes; evaporation boiling and condensing heat transfer. Prerequisites: MTH204 Differential Equations, MEE311 Fluid Mechanics.

MEE311 Fluid Mechanics | 3-3 | 4 cr. Fluid statics; analysis of fluid motion using the continuity, momentum and energy relationship; introduction to viscous flow. Prerequisite: PHY311 Dynamics.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEE320</td>
<td>Strength of Materials</td>
<td>3-0</td>
<td>3 cr. Mechanical properties and behavior of stressed materials. Stress analysis of beams; columns and shafts; statically indeterminate structures; plane stress and strain; principal stresses. Prerequisite: PHY211 Statics.</td>
</tr>
</tbody>
</table>
MEE513 Gas Turbines | 3-0 | 3 cr. Design and performance of stationary and propulsion gas turbines. Prerequisite: MEE412 Thermofluids.

MEE521 Finite Element Methods | 3-0 | 3 cr. The stiffness method and the plane truss; Element based on assumed displacement fields; the isoparametric formulation; coordinate transformation; solids of revolution; bending of flat plates and shells. Prerequisites: GNE333 Engineering Analysis I, MEE320 Strength of Materials.

MEE533 CAD / CAM | 2-2 | 3 cr. Use of computer-aided design software packages including systems for computer-aided drafting; solid modeling; finite element analysis, and computer-aided manufacturing; design projects including fabrication of physical prototypes generated with numerically controlled machines. Prerequisite: MEE432 Production Processes and Machinery.

MEE543 Acoustics and Vibration Control | 3-0 | 3 cr. Acoustic momentum, energy and intensity; propagation, reflection and absorption; effects of the physical properties; transmission of sound in real media; forced and free vibration systems with one or more degrees of freedom; vibration isolation and transmission applied to problems of rotating and reciprocating machinery; design problems on vibration isolation systems and absorbers. Prerequisite: MEE442 Machine Dynamics.

MEE591 Project I | 3-0 | 3 cr. Selected engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final Year Standing and Consent of Instructor.

MEE592 Project II | 3-0 | 3 cr. Advanced engineering project using acquired technical knowledge; formal report and presentation. Prerequisite: Final year standing and consent of instructor.

MEE599 Topics in Mechanical Engineering | 3-0 | 3 cr. Treatment of new development in various areas of mechanical engineering. Prerequisite: Final year standing and consent of instructor.

INTERIOR DESIGN

DES101 Basic Studio Skills | 0-6 | 3 cr. Introduction to the basic principles of architectural drafting. Learning the graphic language and the use of different drafting materials, understanding plans, elevations, sections and details. A study of figure presentations in projections (isometrics, axonometrics, etc.) and perspective. An introduction to the theory of shades shadows and the importance of light.

DES111 Interior Design I | 0-6 | 3 cr. Basic tools of expression in design. Manipulating the design language. Relation between light and form vs. form and mass, contours, volumes, etc. Understanding the concepts of the themes and atmospheres. Introduction to the elements of the house or residential space. Concurrent with DES101 Basic Studio Skills.

DES112 Interior Design II | 0-6 | 3 cr. The 3D space. Understanding and analyzing the residential unit, with particular attention to the zoning and circulation. The role of light, sun, location, site, physical environmental factors, colors, mood, form, texture, proportions and their relationship with man and the space. Introduction to the 3D model, its conception, perception and execution. Prerequisite: DES111 Interior Design I.

DES113 Rendering and Perspective Techniques | 0-6 | 3 cr. Continuation of basic studio skills with an emphasis on the techniques of various types of architecture communication and presentation media. One, two, and three points perspective/free hand perspective and rendering. Prerequisite: DES101 Basic Studio Skills.

DES201 Construction and Finishes Technology I | 2-2 | 3 cr. A survey on the details of most of the built-in furniture (millwork, interior trim, hardware laminate, etc.), and different types of walls. A detailed description of partitions, doors, windows, skylights, glazing, their types, styles, dimensions and uses. Construction of such elements,
the coordination of the execution on sites and their manufacturing in workshops, factories and mills. Prerequisite: DES112 Interior Design II.

**DES211 Interior Design III | 0-6 | 3 cr.** Course material of DES112 Interior Design II applied to small-scale commercial and public spaces. Study of facade aesthetics and ornamentation. Prerequisite: DES112 Interior Design II.

**DES212 Interior Design IV | 0-6 | 3 cr.** History of world furniture and styles. Application of European and American historic styles and periods in interior design. Prerequisite: DES211 Interior Design III.

**DES217 Introduction to Mechanical Systems, Electricity, Lighting | 2-2 | 3 cr.** Lighting system design. A study of different kinds of light sources, their application, distribution, categories and their graphic representations on maps. Acoustics and sound proofing treatments. Different types of heating, ventilation and AC systems, their installation, design considerations, and needs. Introduction to plumbing systems and sanitary piping. Prerequisite: DES211 Interior Design III.

**DES219 Internship | 0-6 | 3 cr.** Provides practical experience in interior design under supervision.

**DES221 History of Architecture & Furniture | 3-0 | 3 cr.** A study of the important historical periods of architecture, interiors, furniture styles and ornaments from antiquity to the present. Prerequisites: Sophomore standing and DES112 Interior Design II.

**DES224 History of Design | 3-0 | 3 cr.** Design from the Industrial Revolution to the present day. Products, furniture, packaging, graphics from the Crystal Palace through the mirrors. Survey of the arts of crafts, art nouveau, art deco to contemporary design. Prerequisite: DES221 History of Architecture & Furniture.

**DES227 Photography for Architecture and Design | 1-4 | 3 cr.** Introduction to basic photography methods as related to architecture. Applied study in pictorial composition and darkroom procedures. Prerequisite: DES211 Interior Design III.

**DES301 Construction and Finishes Technology II | 2-2 | 3 cr.** Detailed study of the different kinds of finishes and treatments of walls, floors and window coverings, ceiling and doors. Their installation techniques, specifications, uses, etc.

**DES303 Comparative Styles | 2-1 | 3 cr.** Historical overview of styles and social movements which preceded and laid the foundation for the contemporary practice of interior design, i.e., Regency, Federal, Pennsylvania Dutch, Shaker, Victorian, Art Deco, etc. Prerequisite: DES224 History of Design.

**DES311 Interior Design V | 0-8 | 4 cr.** Regional and local architecture. Preservation, restoration and renovation. The adaptive process of replanning and redesigning of existing structures to accommodate desired changes. Prerequisite: DES212 Interior Design IV.

**DES312 Interior Design VI | 0-8 | 4 cr.** Technical working drawings. Understanding elements and their detailed representation and construction techniques. Prerequisite: DES311 Interior Design V.

**DES325 Advanced Color Theory and Light | 2-2 | 3 cr.** Principles of color and light. Introduction to recent color theories and systems which are applicable to the visual arts. Prerequisite: DES311 Interior Design V.

**DES411 Interior Design VII | 0-8 | 4 cr.** Large-scale commercial spaces: public buildings, hotel and hospital lobbies. Commercial offices and open-office planning. Prerequisite: DES312 Interior Design VI.

**DES412 Interior Design VIII | 0-8 | 4 cr.** Continuation of DES411 Interior Design VII with emphasis on working drawings, and specification documentation. Prerequisite: DES411 Interior Design VII.
DES421 Professional Practice I | 0-6 | 3 cr. Practical work in a design office for three to four hours daily. Weekly reporting by the student on his/her professional experience. Prerequisite: DES411 Interior Design VII.

DES423 Landscape Open Space Design | 0-6 | 3 cr. Exploring human factors and environmental relationships with respect to space, scale, form, material, and movement. Basic design principles as applied to open space. Conceptual and intuitive understanding of landscape. Design principles are presented and discussed through a series of lectures and projects. Prerequisite: DES411 Interior Design VII.

DES425 Furniture Design Shop | 0-6 | 3 cr. Introduction to the concepts, function, materials and techniques of furniture. Review of historical background and design theory development in two and three-dimensional forms of a basic furniture concept or design. Prerequisite: DES411 Interior Design VII.

DES511 Advanced Interior Design IX | 0-12 | 6 cr. Final design project for senior students. Prerequisite: DES412 Interior Design VIII.

DES412 Interior Design VIII | 0-8 | 4 cr. Continuation of DES411 Interior Design VII with emphasis on working drawings, and specification documentation. Prerequisite: DES411 Interior Design VII.

DES421 Professional Practice I | 0-6 | 3 cr. Practical work in a design office for three to four hours daily. Weekly reporting by the student on his/her professional experience. Prerequisite: DES411 Interior Design VII.

DES423 Landscape Open Space Design | 0-6 | 3 cr. Exploring human factors and environmental relationships with respect to space, scale, form, material, and movement. Basic design principles as applied to open space. Conceptual and intuitive understanding of landscape. Design principles are presented and discussed through a series of lectures and projects. Prerequisite: DES411 Interior Design VII.

DES425 Furniture Design Shop | 0-6 | 3 cr. Introduction to the concepts, function, materials and techniques of furniture. Review of historical background and design theory development in two and three-dimensional forms of a basic furniture concept or design. Prerequisite: DES411 Interior Design VII.

DES511 Advanced Interior Design IX | 0-12 | 6 cr. Final design project for senior students. Prerequisite: DES412 Interior Design VIII and approval of the chairperson and instructor.

DES512 Advanced Interior Design X | 0-12 | 6 cr. The senior project is a transition between formal academic study and continued independent development. As a last step in the curriculum, two aspects are stressed: concepts and development of individual projects, and an emphasis on written and oral research tools toward an understanding criticism. Prerequisites: DES511 Advanced Interior Design IX and a minimum GPA of 2.5.

DES521 Professional Practice II | 2-1 | 3 cr. Preparation of feasibility studies, bills of quantities, budgeting, pricing, bidding. Contracting work, supervision and coordination. Prerequisite: DES412 Interior Design VIII.
The School of Pharmacy

Teaching Faculty at the School of Pharmacy

Dean: Maliha, G., Ph.D., M.D.
Faculty: Dib, J., Pharm.D.; Maliha, G., Ph.D., M.D.; Moukhachen, O., Pharm.D; Mroueh, M., Ph.D.; Nayfeh, S., Ph.D.


The school of Pharmacy, located at the Byblos campus, was established as an integral part of LAU to meet the demand of a clinical Pharmacy practice in Lebanon and in the Middle East.

The Pharmacy curriculum offers two professional degree programs: a five-year program leading to a Bachelor of Pharmacy (B.Ph.) degree and a six-year program leading to a Doctor of Pharmacy (Pharm.D.) degree.

The School prepares its graduates for a career in Clinical Pharmacy with a thorough understanding of drugs and diseases. The program prepares pharmacists who can act as competent consultants to the public in various pharmacotherapeutics matters and who can play a more effective role in patient health care in time of emergency. The clinical pharmacy curriculum is designed to promote interaction between pharmacists and other health professionals in the delivery of comprehensive health care.

The goal of the School of Pharmacy is to graduate scientifically and technically competent pharmacists who can provide maximum health care services to patients and assume leadership in modern Pharmacy practice with moral and social responsibilities. LAU graduates will be trained to function as health care informants and educators or to practice pharmacy in the drug retail sector. They will also possess the skills to work as clinical pharmacists in a hospital setting, researchers in a medical or pharmaceutical research center or as technical representatives with various pharmaceutical companies.
Accreditation Status: American Council on Pharmaceutical Education (ACPE)

Since the Doctor of Pharmacy program has already produced Pharm.D. graduates, the School has applied for full accreditation status for the Doctor of Pharmacy program. An on-site evaluation will occur during Spring 2002. The ACPE Board of Directors will meet on June 27-30, 2002, to consider the School's application. The School will be notified of the Board's decision as soon as feasible following the meeting. Should the Board feel that accreditation status cannot be conferred at this time, the School could respond to the Board's concerns and reapply for subsequent evaluation. If accreditation status is not granted even after reapplication, graduates may not be eligible for licensure as pharmacists in the United States.
PROMOTION TO THE THIRD YEAR

To be promoted to the third year in Pharmacy, students should have completed all of the first and second year courses with an overall GPA of at least 2.50 and passed all of the major courses with an overall GPA of at least 2.50. Major courses include the following: CHM201 Chemical Principles, CHM204 Chemical Analysis, CHM311 Organic Chemistry I, CHM312 Organic Chemistry II, BIO201 General Biology I, PHA201 Pharmacy Practice History and Ethics of Pharmacy, BIO343 Anatomy and Physiology, PHA303 Pharmaceutical Calculations, PHA305 Introduction to Information and Literature Evaluation, PHA322 Pharmaceutical Analysis, PHA311 Computer Applications to Pharmacy.

Admission to the third year in Pharmacy is a selective process. Meeting the minimum requirements for admission does not automatically guarantee acceptance.

ADMISSION OF STUDENTS WITH BS, BA OR LICENCE DEGREE

Applicants who join the Pharmacy Program after having received a BA or a BS degree are exempted from taking general university requirements, but are required to complete all the major courses (see list above) with an overall GPA of at least 2.50. BA/BS or License holders may be admitted to the School of Pharmacy if they have an overall GPA of 77.5/100 (American University of Beirut) 12/20 (Université St. Joseph), 60/100 (Lebanese University) or 2.75/4.00 (all other universities).

GRADING POLICY

Any of the following major courses with a grade of less than C must be repeated:

- BCH301 Biochemistry
- BIO221 Microbiology
- PHA411 Medicinal Chemistry I
- PHA412 Medicinal Chemistry II
- PHA421 Pharmaceutics I
- PHA423 Pharmaceutics II
- PHA521 Pharmaceutics III
- PHA511 Pharmacology & Toxicology I
- PHA513 Pharmacology & Toxicology II
- PHA461 Pathophysiology
- PHA506 Clinical Nutrition & Diet
- PHA525 Interpretation of Lab Data
- PHA503 Nonprescription Drugs
- PHA522 Pharmacokinetics & Biopharm.
- PHA551 Therapeutics I
- PHA552 Therapeutics II
- PHA624 Therapeutics III
- PHA625 Therapeutics IV
- PHA527 Pharmaceutical Parenterals
- PHA658 Dispensing Laboratory
- PHA403 Clerkship / Pharmacy Management
- PHA603 Clerkship I
- PHA604 Clerkship II
- PHA703 Clerkship III
- PHA704 Clerkship IV
- PHA506 Clinical Nutrition & Diet
- PHA525 Interpretation of Lab Data
- PHA503 Nonprescription Drugs
- PHA522 Pharmacokinetics & Biopharm.
- PHA551 Therapeutics I
- PHA552 Therapeutics II
- PHA624 Therapeutics III
- PHA625 Therapeutics IV
- PHA527 Pharmaceutical Parenterals
- PHA658 Dispensing Laboratory
- PHA403 Clerkship / Pharmacy Management
- PHA603 Clerkship I
- PHA604 Clerkship II
- PHA703 Clerkship III
- PHA704 Clerkship IV

A student failing to score at least a C in any of the above major courses after taking the course three times will be dismissed from the School of Pharmacy.

GRADUATION REQUIREMENTS:

In order to graduate from the School of Pharmacy with a Bachelor of Pharmacy degree B.Ph. a student must have at least an overall GPA of 2.00 in all of the courses taken at LAU and have at least a C in each of the required professional courses, including Clerkships and Externships.

In addition, students wishing to study for a Doctor of Pharmacy degree are, required to complete, in the sixth, year two semesters of Clinical Clerkships. Project pre-proposals must be approved in advance by the School of Pharmacy. A formal presentation of project topic is required of all students in the program.

To be promoted to the Doctor of Pharmacy Program, fifth year pharmacy students at LAU should have received a Bachelor of Pharmacy degree and passed all of the courses taken at LAU with an overall GPA of at least 2.75/4.0.

Applicants who received their BS degree in Pharmacy from outside LAU are encouraged to apply to the Pharm.D. program. Their applications will be reviewed on an individual basis.

In order to graduate with a Doctor of Pharmacy degree, a student must have an overall GPA of at least 3.00 in all the required sixth year courses.
# PHARMACY CURRICULUM

## FIRST YEAR

**Fall Semester**
- ENG009 English I (if needed) 3 cr
- ARA201 Appreciation of Arabic Literature 3
- BUS205 Survey of Economics & Marketing 3
- CHM201 Chemical Principles 3
- INF201 Learning Resources Techniques 1
- PHA311 Computer Application to Pharmacy 2
- PED – Physical Education 1

13 cr

**Spring Semester**
- ENG101 English II (if needed) 3 cr
- BIO201 Biology I 4
- CHM204 Quantitative Analysis II 2
- CST201 Cultural Studies I 3
- STA205 Biostatistics
  - Social Science (Excluding Economics courses) 3

15 cr

**Summer**
- ENG102 English III (if needed)

Total number of semester credit hours in the first year (excluding English): 28.

## SECOND YEAR

**Fall Semester**
- CHM311 Organic Chemistry I 4 cr
- BIO343 Anatomy & Physiology 4
- CST202 Cultural Studies II 3
- ENG201 Fundamentals of Oral Communication 3
- PHA303 Pharmaceutical Calculations 2
- PHA305 Introduction to Drug Information & Literature Evaluation 2

18 cr

**Spring Semester**
- CHM312 Organic Chemistry II 4 cr
- PHA322 Pharmaceutical Analysis 3
- CST301 Cultural Studies III 3
- PHA201 Pharmacy Practice, History & Ethics 3
- ENG202 Sophomore Rhetoric 3

16 cr

Maximum total number of semester credit hours in the first two years: 62.

## THIRD YEAR

**Fall Semester**
- BCH301 Biochemistry 4 cr
- PHA411 Medicinal Chemistry I 4
- PHA421 Pharmaceutics I: Physical Pharmacy 3
- PHA461 Pathophysiology 4
- PHA407 Pharmacy Management 3

18 cr

**Spring Semester**
- BIO211 Microbiology 4 cr
- PHA412 Medicinal Chemistry II 4
- PHA423 Pharmaceutics II: Industrial Pharmacy 4
- PHA502 Physical Assessment 2
- PHA508 Professional Communication 1
- PHA405 Pharmacy Seminar I 2

17 cr

**Summer**
- PHA403 12 weeks of Pharmacy Management Clerkship 6 cr

## FOURTH YEAR

**Fall Semester**
- PHA511 Pharmacology and Toxicology I 4 cr
- PHA521 Pharmaceutics III: Dosage Form Design & Compounding 3
- PHA551 Therapeutics I 5
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHA505</td>
<td>Pharmacy Seminar II</td>
<td>2</td>
</tr>
<tr>
<td>PHA506</td>
<td>Clinical Nutrition &amp; Diet Therapy</td>
<td>3</td>
</tr>
<tr>
<td>PHA527</td>
<td>Pharmaceutical Parenterals</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Spring Semester</strong></td>
<td>19</td>
</tr>
<tr>
<td>PHA513</td>
<td>Pharmacology and Toxicology II</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHA552</td>
<td>Therapeutics II</td>
<td>5</td>
</tr>
<tr>
<td>PHA503</td>
<td>Non-Prescription Drugs</td>
<td>2</td>
</tr>
<tr>
<td>PHA522</td>
<td>Pharmacokinetics &amp; Biopharm</td>
<td>4</td>
</tr>
<tr>
<td>PHA525</td>
<td>Interpretation of Lab Data</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Spring Semester</strong></td>
<td>18</td>
</tr>
<tr>
<td>PHA624</td>
<td>Therapeutics III</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHA625</td>
<td>Therapeutics IV</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Summer</strong></td>
<td>8</td>
</tr>
<tr>
<td>PHA603</td>
<td>Clerkship I</td>
<td>12 cr</td>
</tr>
<tr>
<td>PHA689</td>
<td>Pharmacy Seminar III</td>
<td>3</td>
</tr>
<tr>
<td>PHA611</td>
<td>Pharmacognosy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Fall Semester</strong></td>
<td>17</td>
</tr>
<tr>
<td>PHA604</td>
<td>Clerkship II</td>
<td>12 cr</td>
</tr>
<tr>
<td>PHA658</td>
<td>Dispensing Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>PHA608</td>
<td>Pharmacy Law</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Spring Semester</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**SIXTH YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHA703</td>
<td>Clerkship III</td>
<td>9 cr</td>
</tr>
<tr>
<td>PHA722</td>
<td>Clinical Pharmacokinetics</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Fall Semester</strong></td>
<td>11</td>
</tr>
<tr>
<td>PHA704</td>
<td>Clerkship IV</td>
<td>9 cr</td>
</tr>
<tr>
<td>PHA789</td>
<td>Project</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Spring Semester</strong></td>
<td>12</td>
</tr>
<tr>
<td>PHA624</td>
<td>Therapeutics III</td>
<td>4 cr</td>
</tr>
<tr>
<td>PHA625</td>
<td>Therapeutics IV</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Summer</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

**FIFTH YEAR**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHA603</td>
<td>Clerkship I</td>
<td>12 cr</td>
</tr>
<tr>
<td>PHA689</td>
<td>Pharmacy Seminar III</td>
<td>3</td>
</tr>
<tr>
<td>PHA611</td>
<td>Pharmacognosy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Fall Semester</strong></td>
<td>17</td>
</tr>
<tr>
<td></td>
<td><strong>Spring Semester</strong></td>
<td>15</td>
</tr>
</tbody>
</table>
PHA201 Pharmacy Practice/History and Ethics | 3 cr. Introduction to the practice of pharmacy in institutional settings and clinics. Emphasis will be given to principles of parenteral drug preparations, home health care and the delivery of pharmaceutical services in group practices. This course will also provide the student with a study of the development of the profession of pharmacy, emphasizing the historical background and ethical principles upon which the profession rests. The nature and place of pharmaceutical services in society will also be considered and the moral standards and professional conduct required of a pharmacist emphasized.

PHA303 Pharmaceutical Calculations | 2 cr. Given a prescription or medication order, the student shall be able to make the necessary basic calculations required to compound and dispense a drug. Calculation of doses, percentage preparations, dilution and concentration, and isotonic electrolyte solutions will be emphasized.

PHA305 Introduction to Drug Information and Literature Evaluation | 2 cr. This course integrates information management principles and the use of reference sources to prepare students to utilize, retrieve, interpret and disseminate information on their clinical clerkships and in practice. The students will learn about advanced information sources, how to evaluate the literature, and how to interpret information appropriate to specific practice situations.

PHA322 Pharmaceutical Analysis | 3 cr. This lecture and laboratory course will deal with various quantitative and qualitative methods employed in the analysis of drugs in pharmaceutical products and drug fluids. Assignments will include sample preparation, volumetric methods, potentiometry, spectroscopy, chromatography, and enzymic and immunologic assay procedures. Prerequisite: CHM204 Chemical Analysis II, CHM311 Organic Chemistry I, CHM312 Organic Chemistry III or concurrently.

PHA311 Computer Applications to Pharmacy | 2 cr. This course will allow students to use computers for professional, educational and business problem-solving. It will also introduce students to the utility of computer technology, on-line information resources, hardware peripherals, CD-ROM databases, programs and multimedia computing systems that pharmacists can use in their practice.

PHA411 Medicinal Chemistry I | 4 cr. A course on the fundamentals of the application of chemical principles to the study of medicinal agents. Basic heterocyclic chemistry as is needed to develop the chemistry of physiologically active molecules. Physicochemical properties of drugs and their relation to physiological activity, fundamental consideration of the metabolic changes in drug molecules, synthetic pathways, structure-activity-relationship. CNS depressants and stimulants, analgesics, and local anesthetics are emphasized. Prerequisites: CHM201 Chemical Principles, CHM311 Organic Chemistry I, CHM312 Organic Chemistry II.

PHA412 Medicinal Chemistry II | 4 cr. This course is a continuation of PHA411 Medicinal Chemistry I. Emphasis will be on cholinergics, adrenergics, anticoagulants, diuretics, antihistamines, antilipidemics, antidiabetics, antibiotics and chemotherapeutic cardiac and anti-inflammatory agents. Prerequisite: PHA411 Medicinal Chemistry I.

PHA421 Pharmaceutics I - Physical Pharmacy | 3 cr. A study of the physico-chemical properties of drugs necessary to define, characterize and develop a stable and effective dosage form. An introduction to basic thermodynamics leads to studies of acid-base equilibria, partitioning, solubility and surface properties. The chemical stability and kinetics of drug degradation will also be discussed. Prerequisite: CHM201 Chemical Principles, CHM311 Organic Chemistry I, CHM312 Organic Chemistry II.

PHA423 Pharmaceutics II - Industrial Pharmacy | 4 cr. This course will help to prepare students to design, manufacture, and evaluate different pharmaceutical dosage forms in an industrial environment. The course content will
include preformulation studies, formulation of liquid and solid oral pharmaceutical dosage forms, recent advances and trends in controlled or sustained release formulations, drug regulatory affairs and current good manufacturing practices. Prerequisite: PHA421 Pharmaceutics I - Physical Pharmacy.

**PHA521 Pharmaceutics III | 1-4 | 3 cr.** This course involves the study of the physical, chemical, and biological principles concerned with the formulation, preparation and effectiveness of pharmaceutical dosage forms, e.g. powders, capsules, tablets, suppositories, suspensions and emulsions. The laboratory is designed to allow the student to apply the above principles and to develop proficiency when compounding certain selected formulations. Prerequisite: PHA423 Pharmaceutics II - Industrial Pharmacy.

**PHA527 Pharmaceutical Parenterals | 2 cr.** This course will review proper methods used in the preparation, handling, quality control, and dispensing of sterile dosage forms, including aseptic preparation of parenteral and enteral nutrition products, chemotherapeutic agents, biological and specialty solutions. Prerequisite: PHA423 Pharmaceutics II - Industrial Pharmacy.

**PHA461 Pathophysiology | 4 cr.** This course provides a basic introduction to disease processes. It will consider the alterations, derangements and mechanisms involved in selected disease states which represent the disruption of normal physiology. Various disorders of the nervous, cardiovascular, respiratory, and renal systems will be presented to provide the student the rationale required for an effective drug therapy. Prerequisite: BIO343.

**PHA407 Pharmacy Management | 3 cr.** An introduction to basic concepts, principles and methods of pharmacy management in all practice settings, emphasizing practice alternatives, management approaches and styles, organizational principles, behavior and forms, personnel, purchasing and inventory control, pricing, professional fees and pharmacy services and patronage. Topics will be discussed within the framework of the U.S. health care delivery system and the pharmacist’s role within it and within professional organizations.

**PHA551 Therapeutics I | 5 cr.** This course provides a basic introduction to the therapy of common disease states. Students will receive information on pathophysiology of common disease states and current therapeutic measures to treat diseases as well as on principles of monitoring drug therapy in patients. Topics include conditions affecting structure and joints e.g. osteoporosis and arthritis, and conditions affecting the nervous system, e.g. pain, headaches, psychosis, depression, anxiety, Parkinsonism and seizure disorders will be emphasized. This is first course in a series of four Therapeutic courses. Prerequisite: PHA511 Pharmacology I & Toxicology I, or concurrently.

**PHA552 Therapeutics II | 5 cr.** This course is a continuation of Therapeutics I, PHA451. It will provide the student with a basic knowledge of the therapy of cardiopulmonary and renal disorders. Students will receive information necessary to develop a rational approach to assessing, evaluating, recommending, optimizing and monitoring the therapeutic management of various disease states in individual patients. Prerequisite: PHA511 Pharmacology I & Toxicology I, PHA551 Therapeutics I, or concurrently with PHA513 Pharmacology II & Toxicology II.

**PHA624 Therapeutics III | 4 cr.** This course is a continuation of PHA552 Therapeutics II. It will emphasize, the therapy of endocrine, metabolic, gastrointestinal and hepatopancreatic disorders. Topics include adrenocortical dysfunction, thyroid and parathyroid disorders, diabetes and hyperlipidemia, peptic ulcers disorders and inflammatory bowel diseases, hepatitis and cirrhosis. Prerequisite: PHA513 Pharmacology II & Toxicology II, PHA551 Therapeutics I, or concurrently with PHA552 Therapeutics II.

**PHA625 Therapeutics IV | 4 cr.** This is a continuation of PHA624 Therapeutics III. Topics to be discussed in this course will include infectious diseases, hematologic, immunologic, oncologic and toxicologic disorders. This course will familiarize the student with many aspects of the rational treatment of these disorders, including the preparations, administration and monitoring of antineoplastic agents. Prerequisite: PHA513 Pharmacology II and Toxicology II, PHA551 Therapeutics I, or concurrently with PHA624 Therapeutics III.
PHA405 Pharmacy Seminar I | 2 cr. It will introduce the student to proper methods of oral presentations of topics in pharmacy management and clinical pharmacy (third year only).

PHA505 Pharmacy Seminar II | 2 cr. Presentations and discussions of issues of current significance in the profession of pharmacy. Emphasis will be on evaluation of drug literature articles for proper research and design and data interpretation. Discussion and presentation of selected case studies (fourth year only).

PHA615 Pharmacy Seminar III | 3 cr. This is similar to PHA505 Pharmacy Seminar II, but topics addressed in this seminar will include more clinical pharmacy issues. Current research in this area will also be discussed and presented in class (fifth year only).

PHARMACOLOGY & TOXICOLOGY SERIES

PHA511 Pharmacology I & Toxicology I | 4 cr. Principles of pharmacology based on discussion of normal and abnormal physiologic and biochemical mechanisms. Emphasis on drug-receptor interaction, absorption distribution, metabolism, and elimination. This course will include the pharmacological properties of adrenergics, cholinergics, CNS depressants and stimulants, analgesics and anti-inflammatory agents. Prerequisite: PHA461 Pathophysiology, PHA411 Medicinal Chemistry I and PHA412 Medicinal Chemistry II.

PHA513 Pharmacology II & Toxicology II | 4 cr. This is a continuation of PHA511 Pharmacology I & Toxicology I. Drugs affecting cardiovascular, pulmonary, renal, gastrointestinal, homeostasis systems as well as pharmacology of hormones and chemotherapeutic agents are also emphasized. Prerequisite: PHA511 Pharmacology I & Toxicology I.

PHA525 Interpretation of Laboratory Data | 3 cr. In this course, the student will identify and interpret laboratory tests commonly used for monitoring the efficacy of drugs in the treatment of various diseases. By relating tests and results to case studies, the student will learn principles of monitoring as a method of determining drug effectiveness. Prerequisites: PHA461 Pathophysiology, BCH301 Biochemistry.

PHA506 Clinical Nutrition and Diet Therapy | 3 cr. This course reviews the foundation of nutrition with emphasis on the nutritional aspects of carbohydrates, lipids, proteins, vitamins, electrolytes and trace elements. Nutrition for growth and development and nutrition/clinical care of selected disease states will be covered. Institutionalized nutritional therapy in specific disease states such as metabolic stress, liver, and gall bladder diseases, renal disease and the care of premature neonates will be addressed. The role of the pharmacist as a "nutritionist" and a specialist in drug-nutrition interaction will be emphasized. Prerequisites: PHA461 Pathophysiology, BCH301 Biochemistry.

PHA503 Nonprescription Drugs | 2 cr. A study of products used by the self-medicating public, including material on the symptoms for which patients seek self-treatment, evaluation and selection of products used to treat them, aspects of patient counseling in the safe and effective use of the products and various legal considerations of this class of drugs. Prerequisites: PHA551, Therapeutics I, PHA511 Pharmacology I & Toxicology I, or concurrently with PHA552 Therapeutics II, PHA513 Pharmacology II & Toxicology II.

PHA522 Pharmacokinetics & Biopharmaceutics | 4 cr. Introduction to drugs’ time course in the body in view of their absorption, distribution, metabolism and elimination (ADME). Consideration is given to rate processes, the physicochemical influences on ADME and formulation factors involved in drug delivery and availability. Prerequisites: PHA421 Pharmaceutics I - Physical Pharmacy, PHA423 Pharmaceutics II Industrial Pharmacy.

PHA502 Physical Assessment | 2 cr. This course is designed to introduce the student to various physical assessment techniques and the tools used in monitoring the efficacy of patient drug regimens. The course consists of lectures followed by a laboratory period where students will be introduced to equipment and techniques necessary to conduct physical examinations. Prerequisite: PHA461 Pathophysiology.
PHA508 Professional Communication  |  1 cr. An analysis and application of factors promoting or hindering successful communication between pharmacists and patients, pharmacists and the general public, and pharmacists and other health care personnel. The course is designed to brief students on the importance of communication to interpersonal interaction, and, the consequences of poor communication (third year only).

PHA658 Dispensing Laboratory  |  0-4  |  2 cr. This course will instruct students on the proper techniques and skills required to safely and accurately distribute drug products to patients. Emphasis will be on computerized patient record keeping, patient counseling, finding errors and omission in prescriptions, communication with other health care providers and patients. Prerequisites: PHA511 Pharmacology I & Toxicology I, PHA513 Pharmacology II & Toxicology II, PHA551 Therapeutics I, PHA552 Therapeutics II or concurrently with PHA624 Therapeutics III.

PHA611 Pharmacognosy  |  2 cr. A study of traditional medicinal uses, the chemical constituents, the pharmacological activities, and the toxic effects of plants commonly used around the world as medicine. The course will enable the student to build confidence and self-radiance in the therapeutic use of medicinal plants and to revive an awareness of the importance of plants as sources of medicine, and to encourage their utilization and proper dispensing. Prerequisite: Fifth year students.

PHA608 Pharmacy Law  |  1 cr. A study of governmental laws and regulations relating to all aspects of the profession of pharmacy. Prerequisite: Only fifth-year students.

PHA603 Clerkship I  |  12 cr. Students will be exposed to proper pharmacy practice and patient-oriented pharmacy services and will be given the opportunity in the following pharmacy functions: Dispensing medication; communicating with patients and other health professionals providing proper information and utilizing good communication skills; monitoring patient profiles for drug interactions, medication noncompliance and inappropriate drug therapy (Drug Utilization Review); detecting and solving problems encountered in hospital pharmacy practice.

Additionally, students will develop basic familiarity with community and hospital pharmacy management, drug distribution systems, and hospital organization and policy. Students will apply knowledge acquired in the didactic portion of the curriculum in a practical environment. Moreover, students will go through the Drug Information Center to gain the needed skills to provide information to other health professionals and the public. Prerequisite: Only fifth-year students.

PHA604 Clerkship II  |  12 cr. Through patient monitoring, therapeutic consultation, in-service presentation and communication with other health care professionals and patients alike, students gain additional clinical experience to strengthen those skills. The areas covered in this clerkship will include, Internal Medicine, Pediatrics, Critical Care and Cardiology. Prerequisite: Only fifth-year students.

PHA703 Clerkship III  |  9 cr. Advanced clinical clerkships with pharmacotherapeutic practice experience in Internal Medicine, Pediatrics, Ambulatory Care, Critical Care, with the opportunity to choose from Psychiatry, Oncology, Hematology, Dermatology, Surgery, Endocrinology, Infectious Diseases, Rheumatology and Neurology, allowing students to gain more experience in areas of interest. Prerequisite: Only sixth-year students.

PHA704 Clerkship IV  |  9 cr. Continuation of PHA703 Clerkship III (Internal Medicine, Pediatrics, Ambulatory Care, Critical Care, with the opportunity to choose from Psychiatry, Oncology, Hematology, Dermatology, Surgery, Endocrinology, Infectious Diseases, Rheumatology and Neurology) allowing students to gain more experience in areas of interest. Prerequisite: Only sixth-year students.
**PHA789 Pharm.D. Project | 3 cr.** A written project describing certain aspects of clinical pharmacy practice. Project pre-proposals must be approved in advance by the School of Pharmacy. A formal presentation of project topic is required of all students in the program. Prerequisite: Bachelor of Pharmacy.

**PHA722 Clinical Pharmacokinetics | 2 cr.** Clinical Pharmacokinetics is the application of Pharmacokinetics principles for the rational design of an individualized dosage regimen. The objectives of Clinical Pharmacokinetics are: (a) An optimum drug concentration at the receptor site must be achieved to produce the desired therapeutic response; (b) The drug’s adverse or toxic effects should be minimized.

To meet both objectives, this course will provide students the ability to use serum drug concentrations as a guide for monitoring drug therapy, and recommended dosage utilizing pharmacokinetic parameters; half-life, volume of distribution, elimination rate constant, and clearance. Students will understand the clinical application of pharmacokinetics to specific drugs through the presentation and solution of common clinical problems (i.e. Renal failure patients, burn patients, ICU patients, etc). These drugs will include, among others, aminoglycosides, carbamazepine, digoxin, lithium, phenytoin, procainamide, salicylates, theophylline and vancomycin. Prerequisite: Bachelor of Pharmacy.
Abboud, Dr. May
Ph.D. in Mathematics from the University of Massachusetts in 1971. MA in Mathematics from the University of Rochester in 1966. MS in Computer Science from George Washington University in 1986. MS in Mathematics in 1962 and BS in Mathematics in 1960 from the American University of Beirut.

Abdallah, Mr. Fawz
MS in Information Library Science from the Pratt Institute Library in 1989. BS in Journalism from the Lebanese University in 1987.

Abdo, Dr. Huda

Abu Absi, Mr. Ziad
MFA in Drama from University of Houston in 1986. BA in Drama (Liberal Arts) in 1984 and AAS in Business Management in 1979 from Beirut University College.

Abu-Fadil, Mrs. Magda

Abu Teen, Mr. Samir
MA in English Literature from the American University of Beirut in 1979. Licence in English Literature from the Lebanese University in 1973.

Acra, Mr. Usama

Aercke, Dr. Kristiaan
Ph.D. in Comparative Literature in 1988 and MA in Comparative Literature in 1983 from the University of Georgia. Licentiate in Germanic Philosophy in 1981 and Candidate in Germanic Philosophy in 1979 from the University of Antwerp.

Aghacy, Dr. Samira
Ph.D. in English in 1977 and MA in English in 1973 from Exeter University. BA in English from the Lebanese University in 1972.

Akl, Dr. Nuhad
Ph.D. in Chemistry in 1971, MS in Chemistry in 1968, and BS in Chemistry in 1958 from the American University of Beirut.

Andraos, Mr. Albert
MA in Sales Management from Webster College in 1981. BS in Management from Fontbonne College in 1980.

Assad, Mr. Tony

Awad, Mr. Fuad
MA in Economics from the University of Leicester in 1979. BS in Economics from the American University of Beirut in 1976.

Bacha, Dr. Nahla
PhD in Applied Linguistics from Leicester University in 1997. MA in TEFL in 1979 and BA in English Language and Literature in 1973 from the American University of Beirut.

Badre, Dr. Elie
Ph.D. in Mechanical Engineering in 1994, MS in Mechanical Engineering in 1988 and BS in Mechanical Engineering in 1986 from the University of Tulsa.

Bahous, Miss Rima

Baroody, Dr. George
Ph.D. in Endocrinology from the University of Surrey in 1979. MS in Biology in 1972 and BS in Biology in 1966 from the American University of Beirut.

Baroudi, Dr. Sami
Ph.D. in Political Science from Indiana University in 1991. MA in Political Science from the American University of

**Bazzi, Dr. Tarif**  

**Beyrouti, Dr. Nouri**  

**Bogharian, Mrs. Keghouhi**  
MS in Business Management in 1988, BS in Business Management in 1984 and AAS in Business Management in 1982 from Beirut University College. Diploma in Laboratory Techniques from the American University of Beirut in 1968.

**Bogharian, Dr. Krikoris**  
Ph.D. in Basic Medical Sciences in 1976, MS in Physiology in 1973 and BS in Biology in 1966 from the American University of Beirut.

**Bohsali, Mr. Rached**  

**Bualwan, Dr. Hayat**  
Ph.D. in History from Saint Joseph University in 1998. MA in History from the American University of Beirut in 1983. BA in History from College of Holy Names, Oakland, California in 1967.

**Chamoun, Mr. Chaouki**  
MS in Fine Arts from Syracuse University in 1975. Diploma of Higher Studies from the Lebanese University in 1972.

**Chamoun, Mr. Rachid**  
MA in Architecture from the University of Brooklyn in 1985. BA in Fine Arts from Syracuse University in 1981.

**Chatila, Dr. Jean**  

**Cozysis, Dr. George**  
Ph.D. in Communication from the University of Southern California in 1979. MS in Theater Arts from The Regents of the University of California in 1968. BS in Cinema and BS in Telecommunications from the University of Southern California in 1960.

**Dabaghi, Miss Leila**  

**El Daccache, Dr. Maroun**  

**Dah, Dr. Abdallah**  
Ph.D. in Economics in 1988 and MA in Economics in 1987 from the University of Colorado. BA in Business Administration from the Lebanese University in 1980.

**Daher, Dr. Costantine**  
Ph.D. in Nutrition in 1998 from the University of Surrey. MS in Physiology in 1988 and BS in Biology in 1986 from the American University of Beirut.

**Darwish, Mrs. Orpha**  
MS in Education and TOEFL from Southern Illinois University in 1986. BS in English and German from Emporia State College in 1967.

**Dibeh, Dr. Ghassan**  
Ph.D. in Economics in 1994, MA in Economics in 1992 and BA in Physics in 1985 from the University of Texas at Austin.

**Djoundourian, Dr. Salpie**  

**Fallaha, Ms. Nathalie**  
Fawaz, Dr. Adnan  
Ph.D. in Political Science from American University, Washington, D.C. in 1966. MA in Political Science in 1962 and BA in Political Science in 1961 from the American University of Beirut.

Fouladkar, Mr. Assad  
MA in Film from Boston University in 1989. BA in Theater from the Lebanese University in 1984.

Garabedian, Mr. Sami  
MS Ed in Athletic Administration and Coaching from the University of Miami in 1983. BA in Business Administration and Economics from the American University of Beirut in 1981.

Ghajar, Dr. Raymond  
Ph.D. in Electrical Engineering in 1993 and MS in Electrical Engineering in 1987 from the University of Saskatchewan. BS in Electrical Engineering from the University of Ottawa in 1983.

Ghajar, Dr. Raymond  

Habre, Mrs. Paula Abboud  
MA in TEFL in 1992, BA in English Language and Teaching Diploma in TEFL in 1986 from the American University of Beirut.

Habre, Dr. Samer  
Ph.D. in Mathematics in 1991 and MS in Mathematics in 1987 from Syracuse University. BS in Mathematics from the American University of Beirut in 1984.

Haddad, Dr. Elie  

Haidar, Dr. Nabeel  
Ph.D. in Chemistry from the University of Kentucky in 1970. MS in Chemistry in 1967 and BS in Chemistry in 1965 from the American University of Beirut.

Hajjar, Miss Bughdana  

Hajjar, Dr. Jacqueline  
Ph.D. in Comparative Literature in 1982 and MA in Comparative Literature in 1977 from the University of Illinois. BA in English Literature from Beirut University College in 1973.

Hammoud, Dr. Hassan  
Ph.D. in Social Welfare from the School of Applied Social Sciences, Cleveland, Ohio in 1981. MS in Social Administration from Case Western Reserve University in 1975. BA in Psychology from the Lebanese University in 1971.

Haraty, Ms. Nabelah  
MLA in Liberal Arts from Western Maryland College in 1995. BA in English Language and Literature from the Lebanese University in 1978.

Haraty, Dr. Ramzi A.  
Ph.D. in Computer Science from North Dakota State University in 1992. MS in Computer Science in 1989 and BS in Computer Science in 1988 from Mankato State University.

Harb, Dr. Hadia  
Ph.D in Education-Humanities in 1979 and MA in TESOL in 1969 from Ohio State University. BA in English Literature Education from the Beirut College for Women in 1966.

Harfoush, Mr. Abdel Majid  
CPA in Business Accounting in 1984 and BA in Business Management in 1981 from the University of Maryland.

Harmanani, Dr. Haidar  
Ph.D. in Computer Engineering & Science in 1994, MS in Computer Engineering & Science in 1991 and BS in Engineering in 1989 from Case Western Reserve University.
Harmoush, Dr. Layla

Hashwa, Dr. Fouad
Ph.D. in Microbiology from the University of Gottingen, Germany, in 1972. MS in Microbial Genetics in 1967, BS in Biology from the American University of Beirut in 1965.

Houri, Dr. Ahmad
Ph.D. in Organic Chemistry from Boston College in 1995. BS in Chemistry from the American University of Beirut in 1990.

Houssari, Dr. Ibrahim
Ph.D. in English Literature from Kensington University in 1982. MA in English Literature in 1977 and Licence in English Literature in 1972 from the Lebanese University.

Issa, Dr. Camille
PhD in Structural Engineering from Virginia Polytechnic University in 1985. MS in Engineering in 1982 and BS in Engineering in 1980 from Mississippi State University.

Jabbour, Miss Mona
MA in Painting from the Pratt Institute in 1990. BA in Painting in 1986 and AA in Advertising in 1984 from Beirut University College.

Kabbani, Dr. Ahmad

Kalaidjian, Mrs. Azadouhi
MA in English Literature from the American University of Beirut in 1980. BA in English Literature from Beirut University College in 1960.

Kaloyeros, Mrs. Loulwa Assaker
MS in Developmental Psychology from Victoria University of Manchester in 1987. BA in Psychology from the American University of Beirut in 1984.

Karam, Dr. Gebran
Ph.D. in Civil Engineering/Materials & Structures in 1994 and MS in Civil Engineering from the Massachusetts Institute of Technology. BE in Civil Engineering from the American University of Beirut in 1988.

Karim, Mrs. Larisa Vasilenko
MA in English Literature from Kiev State University in 1977.

Karkoulian, Miss Silva
MA in Business Management in 1989 and BS in Business Accounting in 1985 from Beirut University College.

Khachan, Mr. Victor
MS in English - Applied Linguistics from Macquarie University, Sydney, in 1995. BA from the Lebanese University in 1993.

Khalaf, Mrs. Mona
MA in Economics in 1964 and BA in Economics in 1961 from the American University of Beirut.

Khalife, Mr. Joseph T.
MS in Electrical & Computer Engineering from North Carolina State University in 1986. BS in Electrical Engineering from the Florida Institute of Technology in 1983.

Khoury, Dr. Touma

Kiprianos, Mr. Joseph
Diploma in Architecture from Université Saint Esprit - Kaslik in 1989.

Knio, Dr. Mona

Korafli, Mrs. Samira

Kotob, Mr. Labib
MS in Electrical Engineering from the University of California at Berkeley in 1976. BS in Electronic Engineering from the Northrop Institute of Technology in 1974.
Ladki, Dr. Said  
Ph.D. in Hospitality and Tourism Marketing from Virginia Polytechnic Institute and State University in 1993. MS in Hospitality and Tourism from University of Wisconsin-Stout in 1989. BS in Hotel & Restaurant Administration from Oklahoma State University in 1987.

Lahoud, Mr. Antoine  

Lahoud, Mr. Bassam  

Maalouf, Dr. Emile  
Ph.D. in Arabic Literature from Cambridge University in 1967. License et Lettres from Université de Lyon in 1961.

Maalouf, Mr. Maurice  
MA in Drama from the California State College University in 1970. BS in Theater Arts from the Pasadena Playhouse in 1969.

Maalouf, Mrs. Ruth  

Maliha, Dr. Gabriel  
Ph.D. in Pharmacology from Northwestern University in 1990 and MD in 1982 from Northwestern University. BS in Biology/Chemistry from the American University of Beirut in 1976.

Maluf, Dr. Ramez  
Ph.D. in History of Science from the University of Oklahoma in 1985. BA in Philosophy from Duke University in 1972.

Mansour, Dr. Cedar Jabbour  

Mansour, Dr. Nashaat  
Ph.D. in Computer Science in 1992 and MS in Computer Engineering in 1990 from Syracuse University. MS in Electrical Engineering in 1983 and BE in Electrical Engineering in 1980 from the University of New South Wales.

Marroum, Dr. Marianne  
Ph.D. in Comparative Literature from Purdue University in 1993. MA in English Literature in 1986 and BA in English Language in 1984 from the American University of Beirut.

Mawlawi, Dr. Ziad  
EdD in Art Administration/Art Education in 1995 and MA in Art Administration/Art Education in 1993 from Columbia University. MS in Interior Architecture from University of Oregon. BBA in Business Administration from the American University of Beirut in 1984.

Messarra, Mrs. Leila  
MS in Banking and Money Management in 1982 and BS in Banking and Money Management from Adelphi University in 1980.

Meyer, Mr. Charles  

Mikdashi, Dr. Tarik  
Ph.D. in Mathematics Education from the University of Michigan in 1979. MS in Mathematics in 1973 and BS in Mathematics in 1970 from Western Michigan University.

Mohsen, Dr. Raed  

Moubarak, Dr. Walid  
Ph.D. in Political Science in 1979 and MS in Political Science in 1974 from Indiana University. Licence in Political Science and Public Administration from the Lebanese University in 1968.

Moukary, Dr. May Hamdan  
Ph.D. in Mathematics from Syracuse University in 1994. MS in Mathematics in 1987 and BS in Mathematics in 1985 from the American University of Beirut.

Mroueh, Dr. Mohammad  
PhD in Pharmacology in 1992 and MS in Medicinal Chemistry and Pharmacognosy in 1989 from the University...
of Houston, Texas. BS in Chemistry from the Lebanese University in 1983.

**Mufti Hage, Mrs. Nermine**
MEA (Master in Education) from the American University of Beirut in 1997. BA in Teaching English as a Foreign Language from the Lebanese American University in 1993.

**Musallem, Dr. Ayshegul**
Ph.D. in Psychology & Foreign Language Education from the University of Texas at Austin in 1987. MA in Psychology in 1978 and BA in Psychology in 1974 from the American University of Beirut.

**Mussallem, Mr. Munjid**
MS in Computer Science from the University of Texas at Austin in 1989. BA in Mathematics from the American University of Beirut in 1975.

**Naaman, Mrs. Aida**
MA in Library Science from the University of Minnesota in 1969. BA in Arabic Literature from Beirut College for Women in 1960.

**Nabhani, Mrs. Mona**
MA in English Literature from the Lebanese University in 1986. Teaching Diploma in TEFL from Beirut University College in 1981. BA in English Literature from Beirut College for Women in 1972.

**Naja, Mr. Hassan**

**Naous, Mrs. Ghada**
MS in Organic Chemistry in 1996 and BS in Chemistry in 1994 from the American University of Beirut.

**Na'was, Dr. Tarek**
Ph.D. in Microbiology in 1983, MA in Microbiology in 1979 and BA in Biology in 1977 from the American University of Beirut.

**Nasr, Dr. George E.**
Ph.D. in Electrical Engineering in 1988, MS in Electrical Engineering in 1985 and BS in Electrical Engineering in 1983 from the University of Kentucky at Lexington.

**Nasr, Dr. George F.**
Ph.D. in Political Science from the University of Alberta, Canada, in 1969. MA in Political Science in 1962 and BA in Public Administration in 1956 from the American University of Beirut.

**Nasrallah, Mrs. Therese**
MA in English Literature and Linguistics in 1987 and BA in English Language and Linguistics in 1983 from Mankalo State University, Minnesota.

**Nayfeh, Dr. Shihadeh**
Ph.D. in Biochemistry from the University of North Carolina in 1964. MS in Biochemistry in 1961 and BS in Chemistry in 1959 from the American University of Beirut.

**Nicolas, Dr. Georges**

**Obeid, Mr. Samir**
MS in Physics in 1980 and BS in Physics in 1978 from the American University of Beirut.

**Osta El-Zein, Dr. Iman**
PhD in Informatique/Mathematiques Appliquees from Joseph Fourier University, Grenoble, France, in 1988. DEA (Diplome d'Etudes Approfondies) in IMSS (Informatique et Mathematiques en Sciences Sociales) from Universite Scientifique, Technique et Medicale de Grenoble in 1984. DEA in Educational Sociology from the Lebanese University, Institute for Social Sciences, in 1983.

**Oueini, Dr. Ahmad**

**Papazian, Mr. Vatche**
MS in Computer Science from the University of Wisconsin in 1971. BS in Electrical Engineering in 1969 from the American University of Beirut.
Pempejian, Ms. Giselle

Perry, Dr. Mark

Peters, Dr. David
Ph.D. in Finance from Queen’s University in 1991. B.Com. from University of Windsor in 1979.

Presner, Dr. Lewis

Raad, Dr. Elias
Ph.D. in Business Finance from the University of Alabama in 1989. MS from the University of Dallas in 1982. BA from the Lebanese University in 1979.

Rifka, Dr. Fouad
Ph.D. in Philosophy from the University of Tubingen in 1965. MA in Philosophy in 1956 and BA in Philosophy in 1953 from the American University of Beirut.

Saab, Dr. Samer

Safieddine, Dr. Assem
Ph.D. in Finance from Boston College in 1996. MBA in Finance from the University of California in 1991. BS in Mathematics from he American University of Beirut in 1988.

Saheb, Mr. Adel
MS in Construction Management from the University of Pittsburgh in 1988. BS in Civil Engineering from Beirut Arab University in 1984.

Salman, Mr. Nabil
BBA in Business Management in 1980 and BA in English in 1970 from Central State University, Edmond, Oklahoma.

Samia, Mr. Elie
MA in Political Science in 1988 and BA in Political Science in 1983 from the American University in Cairo.

Sarourphim, Dr. Ketty

Seigneurie, Dr. Kenneth

Semaan, Dr. Mars

Sfeir, Dr. Abdallah
Ph.D. in Mechanical Engineering in 1969 and MS in Mechanical Engineering in 1966 from the University of California at Berkeley. Diplome D’Engenieur from the University of Paris in 1965.

Shahin, Dr. Wassim

Sreih, Dr. Josiane

Taan, Mrs. Yasmine Nashabe

Tabbara, Dr. Mazen
Takchi, Dr. Jean
Ph.D. in Mathematics from Pennsylvania State University in 1984. CAPES in Mathematics in 1979 and BS in Mathematics in 1978 from the Lebanese University.

Trabulsi, Dr. Fawaz
Doctorate in History in 1993 and Diplome in History in 1987 from University of Paris VIII. MA in Political Science in 1967 and BA in Political Studies in 1965 from the American University of Beirut.

Yazigi, Dr. Kamal

Younis, Miss Manal
MS in Business Management in 1990 and BS in Business Computer in 1987 from Beirut University College.

Zakka, Mrs. Janine
MA in Business Administration in 1977 and BA in Business Administration in 1975 from the American University of Beirut.

Zein, Ms. Hiyam
MA in Educational Psychology in 1988 and BA in Psychology in 1975 from the American University of Beirut.

Zeitouni, Dr. Latif

Zouein, Dr. Pierrette
PRESIDENTS AND ADMINISTRATIVE OFFICERS

LAU PRESIDENTS

Frances Irwin 1924-1935
Winifred Shannon 1935-1937 (Acting)
William A. Stoltzftus 1937-1958
James. H. Nicol 1941-1943 (Acting)
Rhoda Orme 1954-1955 (Acting)
Grace Loucks Elliot 1958-1959 (Acting)
Frances M. Gray 1959-1965
Salwa Nassar 1965-1967
Cornelius B. Houk February 1967-
June 1967 (Acting)
Marie Sabri 1967-1969 (Acting)
William H. Schechter 1969-1973
Albert Y. Badre 1973-1982
Riyad F. Nassar 1982-Present

ADMINISTRATIVE OFFICERS

Riyad F. Nassar, Ph.D.
President

Nabeel F. Haidar, Ph.D.
Vice President for Academic Affairs

Layla T. Nimah, Ph.D.
Vice President for Student Affairs

Elias S. Baz, MBA
Vice President for Finance and Administration

Robert D. Stoddard, BA
Vice President for Development

Abdallah Steir, Ph.D.
Assistant Vice President for Academic Affairs

Cedar Mansour, JD
Assistant Vice President for Administration
and In-House Legal Counsel

Emile Lamah, MBA-CPA
Assistant Vice President for Administration

ACADEMIC OFFICERS

SCHOOL OF BUSINESS

Dr. Tarek Mikdashi
Dean, School of Business, Beirut

Dr. Abdallah Dah
Chair, Economics/Management/Hospitality
Management, Beirut

Dr. Edward Vitale
Chair, Marketing, Beirut

Dr. Wassim Shahin
Dean, School of Business, Byblos

Dr. Ghassan Dibeh
Chair, Economics/Management/Hospitality
Management, Byblos

SCHOOL OF ARTS & SCIENCES

Dr. Hadia Harb
Dean, School of Arts & Sciences, Beirut

Dr. Samira Aghacy
Chair, Humanities, Beirut

Dr. Ramez Maaluf
Chair, Communication, Beirut

Dr. Ahmad Kabbani
Chair, Natural Sciences, Beirut

Dr. Sami Baroudy
Chair, Social Sciences, Beirut

Dr. Nuhad Akl
Dean, School of Arts & Sciences, Byblos
Dr. Nola Bacha
Chair, Humanities, Byblos

Dr. Walid Mubarak
Chair, Social Sciences, Byblos

SCHOOL OF ENGINEERING &
ARCHITECTURE

Dr. Abdallah Sfeir
Dean, School of Engineering & Architecture

Dr. Elie Haddad
Chair, Architecture and Design

Dr. George E. Nasr
Chair, Electrical/Computer/Industrial Engineering

Dr. Mazen Tabbara
Acting Chair, Civil Engineering

SCHOOL OF PHARMACY

Dr. Gabriel Maliha
Dean, School of Pharmacy

OFFICES AND SERVICES

Admissions Office
Leila Saleeby Dagher, MA
   Director, Beirut
Michel Najjar, MS
   Director, Byblos

Budget & Financial Planning Office
Sonia Hajjar, MBA
   Director

Business Office
Naji Medlej, DEA
   Associate Comptroller, Beirut
Elias Kassis, BA
   Associate Comptroller, Byblos

Campus Services
Jassem Othman, BE
   Director, Beirut
Jean Rizk, MBA
   Director, Byblos

Center for Sponsored Research & Development
Georges Nicolas, Ph.D.
   Director

Comptroller’s Office
Charles Abu Rjeily, MBA
   University Comptroller

Development & Alumni Affairs Office
Raja Nahas, MS
   Director of Development for the Middle East and of Alumni Affairs

Financial Aid Office
Samir Obeid, MS
   Director, Beirut
Ghada Abi Fares, MBA
   Director, Byblos

Guidance Office
Janine Zacca, MS
   Director, Beirut
Loulwa A. Kaloyeros, MA
   Director, Byblos

Information Technology Office
Melissa Stockman, MS
   Director

Information Systems Office
Antoine Assaf, DI
   Director

Learning Resources Center
Aida S. Naaman, MLS
   Director, Beirut
Fawz Abdallah, MS
   Director, Byblos

Operations Office
Emile Hanna, MS
   Engineer, Beirut
Wissam Mansour, BE
   Engineer, Byblos

Planning & Physical Plant
Youssef Abi Abdallah, BE
   Director
Administrative Officers

Projects Office
Joseph Chebaya, BE
Engineer, Beirut
Shahine Abu Jaoude, BE
Engineer, Byblos

Publications Office
Magda Abu-Fadil, MA
Director of University Publications

Purchasing Office
Maha Hanna, BS
Director, Beirut
Antoine Faris, MS
Director, Byblos

Registrar’s Office
Fouad El-Salibi, BA
Registrar, Beirut
Edgard Rizk, MA
Registrar, Byblos
Samar Kalash, BS
Registrar, Sidon

Student Services
Tarek Na’was, Ph.D.
Dean of Student Services, Beirut
Mars Semaan, Ph.D.
Dean of Student Services, Byblos

Hostess
Mona Nassar, BA
Hostess, Beirut
Nehmat Aoun, License
Hostess, Byblos

Human Resources
Siham El-Zein, BA
Director, Beirut
Joseph Michael, DGES
Director, Byblos

Institute for Women’s Studies in the Arab World
Mona Khalaf, MA
Director

Internal Auditor’s Office
Elie Safar, MBA-CPA
Director

Residence Hall
Renee Attiya, BA
Supervisor, Beirut
Josette Aoun
Supervisor, Byblos

Security Office
Ahmad Hassouna
Security Officer, Beirut
Hassib El-Hashem
Security Officer, Byblos

Sidon Campus
Riyad Shams, MBA
Sidon Campus Director
TUITION AND OTHER FEES
2001-2002

(Per credit hour)

- Non Lab: LL 475,000
- Lab/Business: LL 585,000
- Computer, Engineering, Pharmacy: LL 615,000
- Graduate: LL 720,000
- Student Association (per semester): LL 100,000
- Graduation (one-time fee): LL 150,000
- Late Registration Fee: LL 325,000

Application Fees:
- Application: LL 60,000
- Application, Outside Lebanon: US$ 60

Dormitory Fees:
Beirut:
- Per Semester:
  - Single: LL 3,900,000
  - Shared: LL 2,625,000
- Per Module:
  - Single: LL 1,300,000
  - Shared: LL 875,000
- Per Month:
  - Single: LL 1,200,000
  - Shared: LL 800,000
- Per Day:
  - Single: LL 45,000
  - Shared: LL 30,000

Byblos Duplex:
- Per Semester:
  - Single: LL 4,200,000
  - Shared: LL 2,800,000
- Per Module:
  - Single: LL 1,100,000
  - Shared: LL 800,000
- Per Month:
  - Single: LL 1,000,000
  - Shared: LL 700,000
- Per Day:
  - Single: LL 45,000
  - Shared: LL 30,000

Byblos Room:
- Per Semester:
  - Single: LL 3,100,000
  - Shared: LL 2,100,000
- Per Module:
  - Single: LL 1,050,000
  - Shared: LL 700,000
- Per Month:
  - Single: LL 900,000
  - Shared: LL 600,000
- Per Day:
  - Single: LL 35,000
  - Shared: LL 23,000

Exchange rate: US$ 1 = LL 1,500

REFUND POLICY

Students are entitled to a full refund (100%) of their tuition until the end of the Drop/Add period. No refund is allowed thereafter.

FINANCIAL AID

Achieving educational objectives is normally the most important factor for a student who is choosing a University and selecting a major. Tuition fees however, may also constitute a major decisive factor.

LAU, in its efforts to offer students a better chance for making it through their University years, is committed to making Financial Aid available to needy students. In this respect and within budget constraints, Financial Aid serves as a mean to ensure diversity in the composition of LAU’s student body.

The Financial Aid program is basically a Work-Study grant, designed to provide an opportunity for full-time students demonstrating financial need to earn part of their tuition fees by working at LAU. Loans, Scholarships and Special Grants are complimentary to the program when available.

FORMS OF FINANCIAL AID

Once the financial need is determined, Financial Aid proportional to that need is granted in one or more of the following forms:
Work-aid

All financial aid recipients are required to work a certain number of hours in one of the campus offices. Besides helping students to cover their financial need, the Work-Study program helps them acquire work skills and develop discipline, and promote a sense of personal responsibility and accomplishment.

Loan

The University extends student loans as part of the total Financial Aid program. Loans may be extended to students when requested and in accordance with the loan procedure. Reimbursing the Loan may be spread over nine years starting with a three years interest free grace period after the date of withdrawal or graduation from the University. After this grace period, an interest rate equivalent to 50% of the market debit interest rate will be charged.

Scholarships

Honor Scholarships are awarded to Financial Aid recipients on competitive basis. Upon the completion of 24 credits at LAU with a minimum cumulative Grade Point Average (CGPA) of 3.20, the Financial Aid student may become eligible for an Honor Scholarship. An Honor Scholarship usually accounts for 50% of the tuition and is granted to a set number of students with the highest averages in each academic school.

Grants

LAU offers a limited number of different grants. Grants could be awarded in addition to work-study and loans to cover a greater percentage of the tuition fees.

- Special Grants: Awarded to students majoring in Elementary Education.
- In-service Grants: Awarded to full-time school teachers working towards a Teaching Diploma on part-time basis. The grant amounts to one third of the tuition fees.
- Conditional Grants: Awarded to students according to donor’s conditions.

APPLYING FOR FINANCIAL AID

To apply for Financial Aid at LAU, a potential student should fill out a Financial Aid Application Form that is available at the Financial Aid office. These applications must be taken and submitted within set deadlines. An interview with the applicant and a parent will be subsequently scheduled. Financial Aid is ordinarily granted for one regular academic year and may be renewed upon re-application if the student’s eligibility is maintained.

FINANCIAL AID DECISION

The University shall grant Financial Aid, within budget constraints, based on a systematic assessment of need and good academic standing.

Need analysis procedures are complex and decisions are taken by the Financial Aid Council.

OTHER TYPES OF AID AT LAU

Student Employment

LAU provides additional limited part-time work opportunities to needy students who have acquired work skills. Applications are available at the Human Resources office. Placement and hourly rate depend on the student’s skills, academic level and the nature of the job.

Graduate Assistantship

Graduate students may apply for assistantships at the Dean’s office of the School to which the student is applying. Graduate assistantships cover a portion of tuition fees. In return, students are expected to work a number of hours every week, normally for an academic department. Graduate assistantships are usually awarded on the basis of academic record.
INSTITUTE FOR WOMEN’S STUDIES IN THE ARAB WORLD

The Institute for Women’s Studies in the Arab World (IWSAW) was established in 1973 to enhance LAU’s curriculum, engage in research, advocate policy changes to Arab women’s and children’s issues, as well as to facilitate networking and communications between individuals and groups involved in such issues.

It functions within LAU-Beirut and reaches people both inside and outside the university by means of course offerings, publications in Arabic and English, diverse action programs directed to women and children, and, conferences and seminars.

The Institute sponsors research on Arab women and children which is published in its quarterly Al-Raida. It also has about 5,000 books, 200 periodicals and a number of unpublished papers in Arabic, French and English housed at the Beirut Campus Library. It is an invaluable data bank and resource center.

CENTER FOR SPONSORED RESEARCH & DEVELOPMENT

The Center for Research & Development (CSRD) is a semi-autonomous interdepartmental unit of LAU with headquarters at the Byblos Campus. It is responsible for coordinating and managing all sponsored research and development projects undertaken by the university.

The center is envisaged to be a strategic asset to LAU and Lebanon. Part of its mission is to assist in the reconstruction and development of Lebanon and the Middle East by making the services of faculty and staff available to governments, non-profit institutions and commercial/industrial organizations.

The CSRD’s current scope of activities encompasses the following areas: Advanced Professional Training and Distance Education Program, Business Alliance and Development Program, Quality Management, Standards and Certification Program, Information Technology Program, Research & Development-based conferences and workshops program, Faculty Professional Consulting Program, Faculty Research & Development Incubation Program.

INSTITUTE FOR BANKING & FINANCE

The Institute for Banking and Finance (IBAF) offers seminars for middle managers and top executives of financial institutions who nowadays work in the context of an increasingly complex environment. The courses are designed to provide participants with methods for managing their banks’ portfolios amidst uncertainty regarding future trends in interest and currency exchange rates.

SUMMER INSTITUTE FOR INTENSIVE ARABIC & CULTURE

The Summer Institute for Intensive Arabic Language and Culture (SINARC) at the Lebanese American University’s Byblos campus offers five intensive (eight credits), total-immersion courses in Arabic, including four levels of Modern Standard Arabic and one section of Intensive Lebanese Dialect. A less intensive course (four credits) called “Going Back to the Roots” is open to students with no prior formal exposure to Arabic. An optional one-credit course in Lebanese Dialect is also available to students registering for Modern Standard Arabic. Formal instruction in language is enriched by immersion in an authentic cultural context. Cultural activities include a weekly lecture series at LAU’s Beirut campus on topics related to Arab and Lebanese politics, history, society, and culture, and excursions to historic and tourist sites in Lebanon. The Summer 2002 six-week session will be held at LAU in Byblos from June 24 to August 2.

INSTITUTE FOR PROFESSIONAL JOURNALISTS

The Institute for Professional Journalists (IPJ), established at the Lebanese American University in 1998, aims at helping reporters, editors and managers in the various print, broadcast and online media improve their operational skills in English and Arabic and at familiarizing them with the latest developments in their respective specialty areas. IPJ also focuses on issues of media laws and ethics and freedom of the press in the Lebanese context.
IPJ offers a variety of programs such as workshops, seminars and conferences geared to familiarizing journalists with the tools of a computerized newsroom for writing and editing as well as capitalizing on information sources through the Internet.

IPJ workshops range from tutorials on business, foreign, legal and environmental reporting to newsroom management and online journalism.

Instructors provide practical guidelines in an environment simulating a newsroom. Participants are also encouraged to take part in lively discussions and debates on issues affecting the media and their own roles in them.

**CENTER FOR PEACE AND JUSTICE EDUCATION**

Since its inception, the Center for Peace and Justice Education has lined up an impressive list of courses, workshops and sponsorships tackling such sensitive issues as conflict resolution and human rights. The Center aims to make LAU graduates better citizens and more complete human beings by teaching them about their, and their government’s, rights and responsibilities.

**URBAN PLANNING INSTITUTE**

The purpose of this institute is to deal with problems of urban growth and environmental change in Lebanon and the Middle East. It aims at assisting the ministries of Public Works, Municipal and Rural Affairs, Agriculture, Environment, Social Works and Tourism in studies related to:

- Planning, zoning, land use, demographic statistics and projections
- (EIS) environmental impact studies for large scale and architectural development projects such as industrial buildings, new highways, tunnels and road systems, mass housing and agricultural developments.
- (GIS) geographic information system in surveying, digital mapping and data gathering.
- Problems of urban development, population growth, transportation systems, utilities and infrastructure, conservation and recycling of resources.
- Land management, natural preserves, historical preservation of world heritage sites.
- Research projects in urban studies such as urban economics, urban sociology, and urban architectural investigations.

The UPI is an affiliate member of the World Federation of United cities of Europe and the Middle East.

**INSTITUTE OF WATER RESOURCES AND ENVIRONMENTAL TECHNOLOGIES**

Water resources and environmental issues are of major interest to Lebanon and the Middle East. The availability of clean water and the management of these resources are of paramount importance for a balanced development of the region.

The Institute of Water Resources and Environmental Technologies (IWRET) aims at transferring usable technology to the Middle East region in the areas of water resources, environmental protection and agriculture technologies and to initiate new ideas and venues for applied research in the following generic areas:

- Water resources planning and management.
- Saltwater intrusion in coastal aquifers.
- Drip irrigation technologies.
- Groundwater remediation.
- Groundwater recharge zone mapping and wellhead protection.
- Identification of aquifer resources using environmental tracers.
- Reuse of recycled wastewater and wastewater treatment technologies.
- Optimizing agriculture production in runoff agro-forestry system.

**TEACHER TRAINING INSTITUTE**

The main purpose of the Teacher Training Institute is to meet the unique curriculum and reform needs of schools throughout the country.

Today’s teachers are expected to play a variety of roles in the classroom: educators, motivators, guide, counselors, coaches and disciplinarians. In addition, teachers must continually educate themselves, learning about advances in education, new technologies and new ways to encourage their students to reach their full potential. The Institute meets the above demands by offering three types of training:
1. General Training

- Training new teachers for the different levels and disciplines.
- Updating in-service teachers.
- Preparing teachers to work as part of a team in applying effective interdisciplinary curricula.

2. Specialized Training

- Updating teachers in the subject matter area of their specialization.

3. Oriented Training:

- Training teachers to integrate current trends into the educational reality in its multiple magnitude. It specifically includes:
  - Character and Citizenship Education.
  - Environment and Health Education
  - Conflict Resolution, Classroom Management and Global Education.

HUMAN RESOURCE INSTITUTE

The Human Resource Institute (HRI) is a not-for-profit organization operating under the umbrella of the Lebanese American University. Its mission is to provide high quality human resource development programs and activities that help Lebanese and Middle Eastern employees, human resource professionals, and their employers, to prepare for the future. Through the efforts of committed volunteers and an empowered staff, the HRI aims to be recognized as a leader in human resource management and development. The HRI’s activities feature research in current issues, a variety of professional development programs, and a comprehensive publications program covering the latest thinking and research in the field.

SOFTWARE INSTITUTE

Lebanon has the potential to develop its software industry (and services) in order to make it regionally competitive and internationally visible. The software and information technology sectors can be important components of any national economic development plan. However, realizing Lebanon’s potential depends on a number of policies and conditions. The Software Institute aims to help fulfill these conditions.

Objectives

- To promote and disseminate modern software engineering (SE) practices and recent software technology.
- To support the Lebanese software industry.
- To provide advanced and continuing education.
- To support research and development on software engineering and innovative applications.

Functions and Activities

- Provide training on modern SE practices, programming methodologies, and software technology.
- Facilitate software know-how / technology transfer.
- Encourage and support university-software industry cooperation.
- Serve as a data bank and a resource center for subjects and activities pertaining to the software industry.
- Act as a catalyst for policy development on issues per-
taining to the advancement of the software industry.

- Facilitate and maintain networking among CSE academicians
- Provide facilities for research and development in software engineering and application.

INSTITUTE OF FAMILY AND ENTREPRENEURIAL BUSINESS

The Institute for Family and Entrepreneurial Business (IFEB) at the Lebanese American University provides you with a forum to share and develop your knowledge about family businesses.

The IFEB was created by the School of Business at the Lebanese American University to help professionals solve their family problems while enhancing the continuity, wealth and growth of their family enterprise.

The Institute is a non-profit academic based organization that intends to develop educational programs that support individuals and families in the growth and continuity of successful family enterprises. It is characterized by integrity in research and commitment to LAU values.

INSTITUTE OF HOSPITALITY & TOURISM MANAGEMENT STUDIES

The Institute of Hospitality & Tourism Management Studies (IHTMS) is housed in the schools of business at the Lebanese American University. The institute activities will be geared toward identifying the factors affecting hospitality and tourism development, what makes tourism possible, and how tourism can become an important contributor to the wealth of Lebanon. The institute will set in broad terms the principles, practices and philosophies of hospitality and tourism that have been found advantageous. The socio-economic and cultural impact whether positive or negative resulting from the movement of people will be explored. Organizational structures and policies that make tourism development possible along with supply demand factors affecting tourism development will be addressed.

The institute will conduct applied research to solve particular problems or to find answers to issues that are affecting the Lebanese hospitality and tourism industry.

The institute research and development activities will not only formulate or test theories, but also will solve complex scientific problems through the application of appropriate research methodologies. The Institute will periodically release indices, trend tables and other travel and tourism related information.
### INDEX

Academic affairs policy | 4
Academic freedom, policy on | 4
Academic program | 5
Academic recognition | 21
Academic rules and regulations,
- for master's degree programs | 24
- for undergraduate programs | 18
- for School of Pharmacy | 104
Accounting,
- course descriptions | 74
- emphasis | 71
Activities, extra-curricular | 14
Admission to LAU,
- readmission after suspension | 22
- to graduate programs | 24
- to undergraduate programs | 15-16
Advertising Design/Photography course descriptions | 45
Advising | 14
Arabic Studies course descriptions | 45
Architecture,
- B.Arch. | 83
- course descriptions | 89-93
Arts & Sciences, School of,
- Associate in Arts/Applied Science degree programs | 32-33
- Bachelor of Arts degree programs | 33-39
- Bachelor of Science degree programs | 39-43
- course descriptions | 45-68
- degrees offered, listing | 5-6
- Master's degree programs | 43-44
Associate degrees,
- School of Arts & Sciences | 5, 32-33
- School of Business | 6, 70
- School of Engineering & Architecture | 6, 82
Attendance regulations | 17
Audio-Visual Center | 7
Auditing courses | 17
Bachelor's degrees,
- School of Arts & Sciences | 5, 33-43
- School of Business | 6, 70-73
- School of Engineering & Architecture | 6, 82-88
- School of Pharmacy | 6, 105
Banking and Finance,
- course descriptions | 74
- emphasis | 71
Biochemistry course descriptions | 46
Biology,
- BS | 39
- course descriptions | 46
Board leadership | 3
Business Administration, Master's | 73
Business course descriptions | 74
Business Management, AAS | 70
Business Studies, BS | 70
Business, School of,
- Associate in Applied Sciences degree programs | 72
- Bachelor of Science degree program | 72
- course descriptions | 746
- degrees offered | 6
- Master of Business Administration degree program | 73
Calendar, 1998-1999 | 1
Campuses | 12-13
Career Guidance Program | 14
Center for Peace and Justice Education | 124
Center for Sponsored Research and Development | 123
Certificate programs | 6
Chemistry,
- BS | 40
- course descriptions | 47
Citations | 23
Civil Engineering, BE | 85
Classification of students | 17
Communication Arts, BA | 33
Communication course descriptions | 48
Communication Media, AA | 32
Computer (Business), emphasis | 71
Computer facilities | 8-9
Computer Engineering, BE | 86
Computer Mathematics, BS | 40
Computer Science,
- AAS | 33
- BS | 41
- course descriptions | 50
- MS | 43
Continuing Education Program | 10
Cooperative Learning Center | 11
Counseling services | 14
Course descriptions,
- School of Arts & Sciences | 45-68
- School of Business | 74-80
- School of Engineering & Architecture | 89-102
- School of Pharmacy | 107-110
Course load | 18
Credit/No Credit courses | 18
Cross registration | 19
Cultural Studies course descriptions | 53
Degree students, classification | 17
Developmental Psychology, emphasis | 37
Developmental Studies, emphasis | 38
Diplomas | 6
Diplomatic and Consular Services, emphasis | 38
Disciplinary action | 23
Doctor of Pharmacy degree | 104, 105
Early Childhood Education, emphasis | 37
Economics,
- course descriptions | 77
- emphasis | 71
Education,
- Early Childhood, emphasis | 37
- Elementary, BA | 34
- course descriptions | 54
Electrical Engineering, BE | 86
Engineering & Architecture, School of,
- Associate in Arts degree program | 82
- Bachelor of Arts degree program | 82
- Bachelor of Architecture degree program | 83
- Bachelor of Engineering degree program | 83
- Bachelor of Science degree program | 84
- course descriptions | 89-102
Engineering,
- BE program | 84
- Civil | 85
- Computer | 86
- course descriptions | 93-101
- Electrical | 86
- Industrial | 87
English,
- BA | 35
- course descriptions | 55
- Language, emphasis | 35-36
- Literature, emphasis | 35-36
Entrance exams | 15
Extra-Curricular Activities | 14
Facilities | 7
Faculty | 111-118
Financial aid | 28, 122
Fine Arts,
- BA | 36
- course descriptions | 57
Freshman class | 16, 17
Full-time students, definition | 17
General Academic Information | 17
General Science, AAS | 33
General University Requirements | 29
Grade Point Average (GPA) | 20
Grading system | 19
Graduate Business Management Center | 10
Graduation Requirements,
- for Associate and Bachelor's degree candidates | 21
- for Master's degree candidates | 28
- for BS in Pharmacy and Doctor of Pharmacy degree candidates | 104
Graphic Design Computer Lab, Beirut | 9
Graphic Design, AAS | 33
The contents of this catalog are the responsibility of each academic school and are subject to change without prior notice. The Publications Office reserves the right to redirect comments to the respective departments.
Beirut Campus
P.O. Box 13-5053
Chouran Beirut: 1102 2801
Lebanon
Tel. (01) 786456/64
Fax (01) 867098

Byblos Campus
P.O. Box 36
Byblos, Lebanon
Tel. (09) 547254/263
Fax (09) 944851

Sidon Campus
P.O. Box 267
Sidon, Lebanon
Tel. (07) 728724/5
Fax (07) 728726

New York Office
475 Riverside Drive
Room 1846
New York,
NY 10115-0065
USA
Tel. (212) 870-2592
Fax (212) 870-2762

Web Site:
http://www.lau.edu.lb