The NDU Gazette

A publication covering decisions taken at the BOD and UC meetings

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BOD

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DECISIONS

Issue Number Two, June 2010

New Procedure for the Sibling Grant

Approved by the BOD on April 14, & UC on May 24, 2010

At the beginning of the academic year 2002-2003 a new policy was launched concerning the Sibling Grant eligibility and procedure of application. The siblings were than requested to submit a financial aid application which entitles them to benefit from 10% to 25% depending on their financial need.

The number of the Sibling Grant applications reached 274 at the Fall 2009 semester. Among these applications many described clearly the financial situation of the students facilitating the percentage's decision but a large number of applications included non accurate information leading in some cases to inequitable decisions.

Since the new siblings are eligible starting their first semester of enrollment, they have to fill the application, submit it with all the documents requested and to be interviewed within the first two weeks of the semester. This short period of time is not enough to define the real need of the family as in the Work Study Grant procedure where several interviews done with the students, meeting held with the parents and home visits help identifying the need.
In addition, some of the old students renewing their application are submitting contradictable information from a semester to another. The Financial Aid Office does not have nor the time neither the required personnel to pursue closely case by case.

For the reasons mentioned above and for the equality among the Sibling Grant applicants, we do propose the following:

- To apply, the students have to submit the Sibling Grant form (appendix 1) and attach it to a copy of the Family Identity Card. The form can be withdrawn from the Financial Aid Office or the website during the period of application.
- If eligible (conditions in appendix 2), two siblings enrolled at the same time in the university will benefit from a 15% discount each; three or more siblings will be entitled to a 25% discount.
- The siblings will benefit from the discount as long as they are eligible. They do not have to renew their application unless a new sibling is enrolled for the first time with them.
- In case of financial need the siblings will have the possibility to raise the percentage given to a maximum of 40% by applying to the Work Study Grant.
- A 50% scholarship will limit the percentage of Sibling Grant to10% and a 75% scholarship will totally eliminate the Sibling Grant discount.

The conditions of eligibility to the Sibling Grant:

- The student has to be enrolled with a minimum of 12 credits except during the last semester before graduation when the number of credits may drop to 9 credits.
- He has to maintain a minimum cumulative GPA of 2.00 over 4.00.
- He has to be a sophomore, junior, or senior student (Intensive, Freshman, and Masters Students are not eligible).

If one of the siblings does not fulfill the above criteria, the other(s) may benefit if his/her sibling is enrolled in **9 credits minimum for the undergraduate students and in 6 credits minimum for the graduate student.**

Application form
Sibling Grant

Semester **Family Name**

Students enrolled in NDU

Name	Date of Birth	ID#	Major
1. _____	_____	_____	
2. _____	_____	_____	
3. _____	_____	_____	
4. _____	_____	_____	

Family Information

	Name	Age	Marital Status*	Occupation	Studies Level
Father	_____	_____	_____	_____	_____
Mother	_____	_____	_____	_____	_____
Sibling 1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____

***** Single, Married, Divorced, Separated, Remarried or Widow.

Home Address _____ **Phone** _____

_____ **Mobile** _____

Applicant's Signature **Parent's signature** **Date of Submission**

_____ _____ _____

Amendment to Policy on Graduate Academic Standards

Approved by the by BOD on April 21, & UC on May 24, 2010

Rationale

The existing policy on the Graduate Academic Standards (Catalog, p 107) imposes a minimum course load of 6 credits on students on Academic Probation. Students on probation cannot register for one course to remove the probation, even if they only need to repeat a specific course to regain good standing, or to complete their course requirements. Considering the percentage of part time students that we have, and the fact that we need to cap the upper limit on the course load they want to take instead of the lower limit (as is the case with the undergraduate students), I propose changing the policy to allow graduate students on probation to take one course, if they choose with the help of their Academic Advisor.

Amendment

The new policy reads as follows: "**Failure to obtain a GPA of 3.0/4.0 for the first twelve credit hours will result in notification of probationary status. Any student on probation must remove probation at the end of the following semester. Failure to meet this requirement will result in suspension from the University."**

FAAD – Changes in Bachelor of Architecture program

Approved by the BOD on May 3, & UC on May 28, 2010

1. Minimum passing grade on Architectural Design courses (ARP 311, 322, 433, 444, 555, 556, 590, 591, and 593) is C+.
   The DCC discussed the issue and approved unanimously to add the following sentence in the graduation requirements section of the Bachelor of Architecture:
   All Architectural Design courses (ARP 311, 322, 433, 444, 555, 556, 590, 591, and 593) must be successfully completed with a minimum grade of C+.
2. Assessment of BA and MA in Landscape Urbanism versus LMD system
   Chairperson explained the reasons behind the few changes in the Bachelor of Architecture and the new proposal for a Master of Architecture. He also added that an email concerning the latter (MA) was also sent to the director of Higher Education Dr. Ahmad Jammal, to get his opinion concerning the new proposal.
   The committee decided to table the MA issue, waiting for the response from the Ministry of Higher Education and to proceed with the changes in the Bachelor of Architecture.
   Following the discussion, the following was decided and approved unanimously:

   1. Minimum passing grade on Architectural design courses increased to C+
   2. Reduce ARP 222 Principles of Architectural Design from 4 credits to 3 credits
   3. Move ARP 423 Acoustics 2 credits and ARP 422 Lighting and Electrical Systems 2 credits from the Major requirements courses to the Major Electives pool
   4. Change ARP 439 Mechanical and Sanitary Systems (3 credits) title and content and create **ARP 434 Electrical and Mechanical Systems (3 credits)** to be offered in the Fall semester of the third year before Detailing Studio I.
   5. Add a Major Elective course from the pool of 3 credits courses

Following is the new suggested **Bachelor of Architecture program**

Suggested Bachelor of Architecture BArch (182 credits)

Year I			
Fall Semester I (15 Credits)			
FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
ARP	223	Descriptive Geometry	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.
Spring Semester I (15 Credits)			
ARP	221	Architectural Sketching and Rendering	3 cr.
ARP	222	Principles of Architectural Design	3 cr.
ARP	225	Statics of Architecture	3 cr.
ARP	226	Technical Drawing I	3 cr.
___	___	GER	3 cr.
Summer Session I (8 Credits)			
ARP	233	3D Architectural Survey	2 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.
Year II			
Fall Semester II (17 Credits)			
ARP	311	Architectural Design I	5 cr.
ARP	301	Technical Drawing II	3 cr.
ARP	313	History of Architecture I	3 cr.

ARP	317	Building Technology I	3 cr.
ARP	316	Strength of Materials	3 cr.
Spring Semester II (17 Credits)			
ARP	322	Architectural Design II	5 cr.
ARP	324	History of Architecture II	3 cr.
ARP	328	Building Technology II	3 cr.
ARP	224	Applied Architectural Design I	3 cr.
ARP	327	Structural Analysis	3 cr.
Summer Session II (6 Credits)			
___	___	GER	3 cr.
___	___	Free Elective	3 cr.
Year III			
Fall Semester III (18 Credits)			
ARP	433	Architectural Design III	6 cr.
ARP	435	History of Architecture III	3 cr.
ARP	438	Reinforced Concrete Design	3 cr.
ARP	434	Electrical and Mechanical Systems	3 cr.
ARP	325	Applied Architectural Design II	3 cr.
Spring Semester III (18 Credits)			
ARP	444	Architectural Design IV	6 cr.
ARP	446	History of Architecture IV	3 cr.
ARP	424	Bio-climatic Architecture	3 cr.
ARP	551	Construction Detailing Studio I	3 cr.
___	___	GER	3 cr.
Summer Semester III (9 Credits)			
___	___	GER	3 cr.
___	___	GER	3 cr.
		Free Elective	3 cr.
Year IV			
Fall Semester IV (18 Credits)			
ARP	555	Architectural Design V	6 cr.
ARP	557	Architectural Theories	3 cr.
ARP	552	Construction Detailing Studio II	3 cr.
ARP	561	Urbanism I	3 cr.
ARP	563	Building Rules & Regulations	3 cr.
Spring Semester IV (15 Credits)			
ARP	556	Architectural Design VI	6 cr.
ARP	554	Surveying and Field Surveying	3 cr.
ARP	562	Urbanism II	3 cr.
ARP	568	Social Architecture	3 cr.
Summer Session IV (6 Credits)			
ARP	590	Senior Study	2 cr.
ARP	425	Architectural Practice	2 cr.
ARP	6 ___	Major Elective	2 cr.
Year V			
Fall Semester V (12 Credits)			
ARP	591	Senior Project I	6 cr.
ARP	553	Specifications & Quantity Surveying	3 cr.
ARP	6 __	Major Elective	3 cr.
Spring Semester V (8 Credits)			
ARP	593	Senior Project II	6 cr.
ARP	6__	Major Elective	2 cr.

Changes in the Graphic Design Program

Approved by the BOD on May 4, UC on May 28, 2010

Over the past years, it has become increasingly obvious that education in general and the market needs, in specific, require graphic designers with a diverse knowledge rather than graduates who have focused their studies on a specific subject area of design. The graphic design program should be aiming at graduating BA holders with a holistic overview of design and should equip them with all needed tools to succeed in the market and pursue MA degrees. With the proposed changes, every design student will have knowledge in screen and print based solutions rather than concentrating on a specific subject area, whilst remaining in the dark in relation to the other.

In the new program, an intricate link between animation, print based solution and type design is created. The graphic Design students with this new program will have a comprehensive know how in the area of Graphic Design.

Furthermore, the proposed program will solve administrative problems related to the branch enrolment concentration listing and the number of students per concentration area in the main campus. Currently,
We are facing problems with students overloading in one concentration whilst barely having the required number in the others. This leads to courses being listed as tutorial or low enrolment, thus having difficulty finding instructors for them or achieving a competitive and creative output amongst the students.

Finally, it is worth noting that the total number of credits remains 102 cr, with 30 cr for GER, 6 cr for FE and 66 cr for Core and Major Courses.

New Graphic Design Unified Contract Sheet

Year I			
Fall Semester (15 Credits)			
FAP	211	Drawing I	3 cr.
GDP	212	Design Principles I	3 cr.
GDP	217	Conceptual Communication in Digital Media	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.
Spring Semester (15 Credits)			
FAP	221	Drawing II	3 cr.
GDP	222	Design Principles II	3 cr.
GDP	223	Fundamentals of Typography	3 cr.
GDP	227	Digital Media I	3 cr.
___	___	GER	3 cr.
Summer Session (6 Credits)			
___	___	GER	3 cr.
___	___	GER	3 cr.
Fall Semester (15 Credits)			
GDP	315	Color & Illustration for Graphic Designers	3 cr.

GDP	317	Digital Media II	3 cr.
GDP	322	Applied Typographic Design	3 cr.
GDP	324	Photography for Graphic Designers	3 cr.
___	___	GER	3 cr.
Spring Semester (15 Credits)			
GDP	321	Visual Communication I	3 cr.
GDP	323	History of Graphic Design & Cont. Issues	3 cr.
GDP	361	Type Design and Experimental Typography	3 cr.
GDP	362	Interactive Design and Motion Graphics	3 cr.
___	___	GER	3 cr.
Summer Session (6 Credits)			
___	___	GER	3 cr.
___	___	GER	3 cr.
Fall Semester (15 Credits)			
GDP	412	Packaging	3 cr.
GDP	413	Print Management & Production	3 cr.
GDP	415	Branding for Design	3 cr.
GDP	463	Environmental Graphics and Arabic Type Design	3 cr.
GDP	464	3D in Motion	3 cr.
Spring Semester (15 Credits)			
GDP	423	Professional Practice & Portfolio Preparation	3 cr.
GDP	465	Senior Studio	3 cr.
___	___	GER	3 cr.
___	___	Free Elective	3 cr.
___	___	Free Elective	3 cr.

Course Description / Course Objectives / Textbook / Potential Instructors for the new proposed GDP courses

Course Description

GDP 361 Type Design and Experimental Typography (2.2); 3 cr. Students will learn the principles of designing fonts ready for print and screen. They transfer the manually developed typeface into true type font using professional software. Furthermore, this course will provide the opportunity to experiment with type and research various methods and techniques to serve a pragmatic purpose to express ideas using type. The students will also

learn how to develop a visual identity system and how to combine type with signs and symbols. Prerequisite: GDP 317, GDP 322.

Course Objectives
At the end of this course, students will be able to think of type as an image as well as text from an experimental point of view. They will be enabled to communicate messages, solve briefs and find solutions to design problems by applying lateral thinking to experimental type design.

The students will learn how to create their own typefaces either for print based or screen based applications through the type design process that consists of: 1.sketching type, 2.drawing type, 3.tracing and creating outlines for letters, 4.Spacing the typeface and 5. Generating the font into a workable format. The aim of the course is not only to teach the students the technical skills of developing typefaces but also make them sensitive to letterforms and able to judge and modify typefaces based on their opinion for proportionality, balance and over-all of the letterforms.

Finally, the students will be able to apply their knowledge into a visual identity system.

Textbook
- Typo-graphics: the art and science of type design in context / Ivan Vartanian / Rotovisions, 2000.
- Thinking with type: a critical guide for designers, writers, editors, & students / Ellen Lupton, 2004 - A design handbook.
- David Earls 2002, *Designing Typefaces*, Rockport Publishers.

Potential Instructors
Mr. John Kortbaoui
Mr. Nadim Matta
Ms. Yara Khoury

Course Description
GDP 362 Interactive Design and Motion Graphics (2.2); 3 cr. The course introduces the student to website history and digital interface, website structures and grids, website management and design principles using type, image, color scheme, hierarchy, sequential design, visual identity, animation and sound. Furthermore, Students will create visual projects for screen and TV through the understanding and application of type and image. They will learn how to plan movie concept through sketching and storyboarding and will gain knowledge on how to develop graphic sound tracks to be synchronized with motions. They will also learn the principles of generating short movies and the techniques of editing them. Through assigned projects, students are responsible to follow a design process in order to deliver a specific message using motion graphics.
Prerequisite: GDP 317, GDP 322.

Course Objectives
At the end of this course, students will be able to develop "motion graphics" through:
- the structure of a storyboard that serves as a blueprint for any movie project and as the first visual impression of the short animation;
- the ability to use a digital camera that works as a tool to record movements and settings; and the ability to transfer principles of photography composition using digital video camera.
- the ability to compose successful scenes focusing on the power of images and to what extreme the images can tell without a script or sound, through a workshop: "Shooting without editing".
- potential of understanding the concept of digital photography, digital imaging, motion retouching and compositing.
- understanding the principles and potential of design elements and design solutions for moving image production (typography for screen design, graphic elements, composing images etc.);
- integrating soundtracks synchronized with motion graphics along with the composition of graphic sound effects:
- capturing high-quality video from the DV camcorder, to organize audio and video clips and to edit short movies and sound tracks for final motion graphics production
- fundamentals of Adobe After Effects to produce motion Graphics for Multimedia.

Furthermore, students will be able to:
- conduct professionally a design process to develop, structure and design a complete website ready for hosting.

• achieve skills and awareness in developing advanced interactivity.
• be able to adapt design to the needs of the online media, work according to constraints in order to create proper design solutions.

Textbook
• Motion Graphic Design: Applied History and Aesthetics by Johns S. Krasner, 2008, Elsevier & Focal Press.
• Dreamweaver CS4 by David Sawyer McFarland, 2008 / The Missing Manual, Flash CS4 -Pogue Press O'reilly Publication / The Missing manual by Chris Grover, 2008 – Pogue Press O'reilly Publication.

Potential Instructors
Ms. Jacqueline Soghman
Mr. Naji Sfeir
Mr. Antoine Kweik

Course Description
GDP 463 Environmental Graphics and Arabic Type Design (2.2); 3 cr. This course will introduce the students to the history of Arabic typography. Students will learn to identify the different Arabic type styles and their classifications, as well as applying a creative design process to produce Arabic typeface. Students are also introduced to ways of analyzing and creating meaning in graphic and typographic design solutions for indoor and outdoor environment. In the context of theory and practice, the students will develop way-finding systems, semiotics, and information presentation for the public. They will become aware of issues pertaining to the identification, categorization and structure of raw and complex information from different fields. Prerequisite: GDP 361.

Course Objectives
At the end of this course, students will be able to:
• Know how to analyze the information in order to map it in a clear and precise way, always taking into consideration the user
• Understand the importance of hierarchy in delivering a message
• To know how to manipulate a message through the only use of type and text sequence
• Plan and realize the most communicative solution to create logic out of chaos
• Explore various methods of organizing and representing information
• Understand the logic of space and the way people use it and navigate in it, in the case of a 2 dimensional and a 3 dimensional space.
• Research various approaches that have been carried out by other professionals in the field in order to broaden your Knowledge
• learn how to create their own typefaces either for print based or screen based applications
• Formulate your own symbolic communication language through stylization and simplification so as to communicate a message
• Design objective and effective symbols by learning to put aside your personal interpretation, therefore look at the design from the user side.

Textbook
• Nigel Holmes On Information Design (Working Biographies) by Steven Heller, 2006, working bibliographies
• The information Design Handbook by Jenn and Ken Visocky O'Grady, Rotovision, 2008
• Huda AbiFares, *Typographic Matchmaking*, Khatt / BIS Publishers, 2009
• Edo Smitshuijzen, *Arabic Type Specimen Book,2009*
• *Stop Stealing Sheep & Know How Type Works*, Spiekermann, E. M. Ginger, second edition, 2003

Potential Instructors
Mr. John Kortbaoui
Mr. Nadim Matta
Ms. Yara Khoury
Ms. Maria Bahous

Course Description
GDP 464 3D in Motion (2.2); 3 cr. Students will learn how to communicate effectively using type, image and sound progressively with more and more complex needs for motion graphics. Students will know how to inform while underpinning the media constraints. In parallel, they will learn how to create interface design and

promotional broadcasting graphic movies using different software platforms and advanced tools tracking 2D and 3D animations. Furthermore, the students are introduced to the principles of 3D animation; learn how to sketch, illustrate and design characters as well as developing contemporary design solutions with new approaches of type, image, and characters for screen using appropriate tools and techniques to develop 3D motion graphics for multimedia. Students will investigate and formulate their senior project proposal. Prerequisite: GDP 362.

Course Objectives
By the end of this course, the students should be able to use 3DS MAX to:
• create architectural scenes
• create a simple animation
• use box modelling to create a character
• bone rig and animate the character

Furthermore, this course would enable the students with the right tools and vocabulary for the broadcast design work environment.
Through projects and assignments, students would be able to receive a brief, create storyboards, layout the designs and animate their concepts.
The course will cover cinema, TV and promotion subjects, therefore students would be ready to handle and solve visual problems given using after effects as the main software along with their artistic skills and knowledge of design and typographic principles.

Textbook
• 3ds Max4 2009 Fundamentals, New Riders, Ted Boardman, New Riders publisher, 2001
• Meyer, Trish, Chris, 2007, *Creating Motion Graphics with after Effects Volume I*, 4th edition, Focal Press/ lsevier Science & Technology Books

Potential Instructors
Ms. Jacqueline Soghman
Mr. Naji Sfeir
Mr. Antoine Kweik

Course Description
GDP 465 Senior Studio (2.2); 3 cr. Students will research, develop and design their individual senior project under instructor guidance. Articles, discussions, seminars and lectures will take place during class sessions in support of the development of the senior projects. The senior project and related process will be presented in front of a professional jury. The senior project proposal can take the form of a screen and / or print based solution. Prerequisite: GDP 463, GDP 464.

Course Objectives
By the end of this course, the students will be able to:
• Understand the difference in design communication in relation to the visual culture, cultural and political differences, linguistic variables and geography
• Explore the cultures of design and the designs of culture, including processes, practices, texts, contexts, and reception. Strengthen, clarify, and promote the study of design cultures, including history, criticism, and design practice in the contemporary academy.
• Develop a critical approach towards cultural differences and the way these differences are portrayed
• Choose a topic of interest and collect the material needed for the development of your ideas
• Engage in a thorough research that would lead into a visual translation as well as a research paper
• Develop a project from theory to practice

Textbook
• *Punctuation: Art, Politics & Play*, Jennifer Devere Brody / International Publisher
• Design writing research, Ellen Lupton and Abott Miller, 2006, Phaidon

Potential Instructors
Mr. John Kortbaoui
Mr. Nadim Matta
Ms. Yara Khoury
Ms. Jacqueline Soghman

FAAD - New GER courses

Approved by the BOD on May 3, & UC on May 28, 2010

The Design Dept. in the FAAD has a variety of courses that can and should be included in the university GER course pool. At the moment, the dept. has a very limited number of courses that are accepted within this pool.
The below listed courses used to be part of the GER and have been rewritten to match the new standards as required for the GER pool.

Course Description / Course Objectives / Textbook / Potential Instructors for the new proposed GDP courses

Course Description
FAP 210 Ceramics & Culture (2.2); 3 cr.
The course focuses on how ceramics reflect the culture, the societies and the times. Students will learn to see, analyze and understand the works of ceramics in relation to the relevant context. This course will be organized to explore modern issues from historical, cultural and social perspectives as well as hands on experience in building forms from clay using basic hand building techniques and the potter's wheel.

Course Objectives
At the end of this course, students will be able to:
• understand the cultural and social issues in relation to ceramics
• analyze and understand the works of ceramics in relation to the relevant context
• understand the history of ceramics
• develop and represent the theoretical aspect of the course by hands on projects

Textbook: Triplett K., 2000, *Handbuilt Ceramics*, Lark Books
(Shelf mark: 738.1 NDU main library)

Potential Instructors
Mr. Samir Muller
Ms. Graziella Daghfal
Other (file under study)

Course Description
PDP210 Photography & Culture (2.2); 3 cr.
The course focuses on how photography reflects the culture, the societies and the times. Students will learn to see, analyze and understand the works of photography in relation to the relevant context. This course will be organized to explore modern issues from historical, cultural and social perspectives as well as hands on experience by undertaking projects which visualize the previously mentioned points.

Course Objectives
At the end of this course, students will be able to:
• understand the cultural and social issues in relation to photography
• analyze and understand the works of photography in relation to the relevant context
• understand the history of photography
• develop and represent the theoretical aspect of the course by hands on projects
• A general overview of the various photographic genres and their form in relation to their context.
• An ability to communicate and express their ideas verbally and visually.
• A technical know-how in relation to the different types of analog and digital cameras, lightings and printing processes.
• An ability to develop a concept from a specific briefing, visualize it and express it photographically.

Textbook
Langford Michael & Andrews Philip, Starting Photography, Focal Press, Oxford, 2007.
Potential Instructors
Mr. Noel Nasr

Course Description
FAP 212 Painting & Culture (2.2); 3 cr.
The course focuses on how painting reflects the culture, the societies and the times. Students will learn to see, analyze and understand the works of painting in relation to the relevant context. This course will be organized to explore modern issues from historical, cultural and social perspectives as well as hands on experience by undertaking projects which visualize the previously mentioned points.

Course Objectives
At the end of this course, students will be able to:
• understand the cultural and social issues in relation to painting
• analyze and understand the works of famous paintings in relation to the relevant context
• understand the history of painting
• develop and represent the theoretical aspect of the course by hands on projects
• become familiar with the different techniques, colors, theories and materials used to produce their own work.

Textbook
Janson's History of Art 7th Ed., Anthony F. Janson

Potential Instructors
Mr. Georges Oryan
Ms. Danielle Zaccour
Mr. Fadi Mattar
Ms. Nada Sakr

Proposed Courses: (for four semesters)

Semester 1	
FAP 210 Ceramics & Culture	3cr.
Semester 2	
FAP 213 Hand-build Ceramics	3cr.
FAP 303 Wheel Throwing	3cr.
Semester 3	
FAP 333 Ceramics Ornamentation and surface Design	3cr.
Semester 4	
FAP 443 Digital Approach to Form and Design	3cr.

Course Descriptions:
FAP 210 Ceramics & Culture (2.2); 3 cr.
The course focuses on how ceramics reflect the culture, the societies and the times. Students will learn to see, analyze and understand the works of ceramics in relation to the relevant context. This course will be organized to explore modern issues from historical, cultural and social perspectives as well as hands on experience in building forms from clay using basic hand building techniques and the potter's wheel.

Textbook Triplett K., 2000, Handbuilt Ceramics, Lark Books
Maximum capacity : 14 student

FAP 213 Hand-build Ceramics (2.2); 3cr.
In this course the students will be introduced to the history of ceramics in general and to the hand-build techniques in specific. The projects will be assigned to extend their skills in these different techniques.
Prerequisite: FAP 203
Textbook Triplett K., 2000, Handbuilt Ceramics, Lark Books

Maximum capacity: 14 students

FAP 303 Wheel Throwing (2.2); 3cr.
This course will focus mainly on the wheel-throw technique as a tool of the ceramic heritage. Accordingly, many projects will be allocated to students as part of their studio work. Students are asked to spend studio hours experimenting on the wheel. *Prerequisite: FAP 210*

Text Book: Bill Van Gilder, 2006, Wheel-Thrown Pottery, Lark Books
Maximum capacity: 10 students

FAP 333 Ceramics Ornamentation and surface Design (2.2); 3cr.
In this course students will work with different materials and tools to create to work the surface. This will include different glazes and different firing techniques.
Prerequisite: FAP 210 & *FAP 303*
Text book,Susan Peterson and Jan Peterson,2003, The Craft and Art of Clay,
Overlook Hardcover; 4 Sub edition
Maximum capacity: 14 students

FAP 443 Digital Approach to Form and Design (2.2); 3cr.
This course will concentrate on giving options for the students to Document their work by taking photos of their projects, prepare digital portfolios and personal web pages alongside the studio work that deals with a small presentation plus an exhibition.
Text book: David Cohen, 2008, The Basics of Throwing: A Practical Approach to Form and Design, University of Pensylvania Press
Prerequisite: FAP 213 & FAP 303
Maximum capacity 14 students

Instructors:
Ms. Guitta Melki,
Ms. Graziella Daghfal,
Mr. Samir Muller
and Ms. Amal Muraywed

Text books
Kathy Triplett, 2000, Handbuilt Ceramics, Lark Books
David Cohen, 2008, The Basics of Throwing: A Practical Approach to Form and Design,
University of Pencylvania Press
Bill Van Gilder, 2006, Wheel-Thrown Pottery, Lark Books
Susan Peterson and Jan Peterson, 2003, The Craft and Art of Clay, Overlook Hardcover; 4 sub edition

FAAD - New Course: ARP 434 Electrical and Mechanical Systems (2.2); 3 credits

Approved by the BOD on May 3 & UC on May 28, 2010

Course Description

Preliminary analysis, estimation, and design consideration, of building electrical and mechanical systems, to assist students in the execution project. Electricity and lighting; water distribution; drainage; heating; ventilating; and air-conditioning (HVAC) are the systems included in this course. *Prerequisite*: ARP 328.

Course Objectives:

Upon successful completion of this course, and as a result of the activities and study in this course, the students should be able to accomplish the following:

- Understand the basic concepts of electricity such as voltage, current, power, resistance, inductance, capacitance, series and parallel circuits
- Understand lighting requirement and selection of lighting fixtures
- Layout characteristic power and lighting systems in buildings
- Understand basic water supply systems
- Understand basic drainage and venting systems.
- Understand the basics of heat transmission of walls and roofs and HVAC systems

Required Text Book/s

McGuiness, Stein, Reynolds. 2000, *Mechanical and Electrical Equipment for Building*. USA: John Wiley & Sons

Instructors able to teach the course

Mr. Gaby Hage

Mr. Habib Melki

Changes: Graduate Business Program

Approved by the BOD on April 30, & UC on May 28, 2010

I. MBA PROGRAM

1. Preparatory Courses

Applicants to a graduate degree program who do not have a BBA or its equivalent will be required to take up to four preparatory courses. These courses provide a management base upon which students can build the courses required for a graduate degree. These courses are in addition to the MBA degree requirements. MBA candidates should score a minimum of "B" in each preparatory course; the grades of these courses are not included in the GPA. Only upon successful completion of these courses candidates can join the regular MBA program.

The preparatory courses are:

a. ACO 500 Fundamentals of Financial Accounting
b. ECN 500 Fundamentals of Micro and Macro Economics
c. BAF 500 Fundamentals of Financial Management
d. BAM 500 Fundamentals of Management and Marketing

2. MBA Structure

Option 1: Research Project	**Option 2: Thesis**
18 credits (Required Core Courses)	21 credits (Required Core Courses)
18 credits (Concentration Courses)	15 credits (Concentration Courses)
3 credits (Faculty Elective Course)	3 credits (Faculty Elective Course)

- **Required Common Core Courses (18 cr. if research project or 21 cr. if thesis option):**
  All candidates for the graduate degree, irrespective of their area of concentration, must complete the following six required common core courses. These courses develop an understanding of the modern business organizations and their functioning, in addition to a strong foundation in principles and theories of business, upon which students can build a variety of specializations within the degree program.

  These core courses are thought not as separate and independent disciplines but as integrated and coordinated basic set of tools for managerial decision making, that can be applied in a broad range of professional settings in private and public sectors.

  The Required Common Core Courses are:
  1. Managerial Finance (3 cr.)
  2. Managerial Accounting (3 cr.)
  3. Managerial Economics (3 cr.)
  4. Business and Marketing Management (3 cr.)
  5. Business Research Methods (3 cr.)
  6. Research Project (3 cr.) or Thesis (6 cr.)

- **Concentration Courses (18 cr. if research project or 15 cr. if thesis option)**
  After completing the core courses, degree candidates build further skills and depth of knowledge in their choice of concentration in one particular area of business. See below the curriculum of each area of concentration. A student may choose 6 out of a list of courses if he / she chooses the research project option, or 5 of the concentration courses if he / she chooses the thesis option.
  The Concentration Courses are:

  Finance and Economics
  1. Applied Econometrics
  2. Urban Economics
  3. Political Economy
  4. Economic Development

5. Derivatives
6. Asset Pricing
7. International Money and Finance
8. Economics of Financial Markets
9. International Business Law

Project and Operations Management

1. Operations and Quality Management
2. Project Planning and Inventory Control
3. Logistics and Supply Chain Strategies
4. Leadership and Change Management
5. Global Logistics and Supply Chain Management
6. Transportation Strategy
7. Customer Relationship Management
8. Management Information Technology
9. Special Topics in Logistics and Supply Chain Management
10. International Business Law

Management and Marketing

1. Organizational Behavior
2. Leadership and Change Management
3. Entrepreneurship and Small Business Management
4. Intercultural Management
5. Consumer Behavior and Rights
6. Retail Management
7. Customer Relationship Management
8. Sales Force and Sales Promotion
9. Special Topics in Management and Strategy/Marketing
10. International Business Law

Human Resources Management

1. Organizational Behavior
2. Recruitment, Selection and Performance Management
3. Labor Management Relations
4. Strategic Human Resources Development
5. Intercultural Management
6. Leadership and Change Management
7. Management Information Technology
8. Special Topics in Human Resources
9. International Business Law

- **Faculty Elective Course (3 cr.):**

  The faculty elective course should be selected from the other 3 areas of concentration

Preparatory Courses

ACO 500 Fundamentals of Financial Accounting (3 cr.)

This course focuses on the basic financial accounting principles and more advanced procedures of accounting for sole proprietorships, partnerships and corporations. It explains the techniques of measuring, classifying, summarizing, reporting and interpreting financial information. Accounting software is used.

BAM 500 Fundamentals of Management and Marketing (3 cr.)

This course introduces the basic principles and theories of management and marketing. It discusses

management objectives, organizational structures, material and human resource utilization, decision making, planning, organizing, marketing principles, marketing mix strategies, and consumer behavior.

BAF 500 Fundamentals of Financial Management (3 cr.)

This course shows a condensed version of financial management including the role of the financial manager and the techniques for obtaining and using funds to maximize the value of the firm. Topics include discounted CF analysis, valuation methods, risk and return, financial analysis, financial planning and control, working capital management, cost of capital, capital structure, common stock and long-term debt financing, and credit management.

ECN 500 Fundamentals of Micro and Macro Economics (3 cr.)

This course covers the basic principles, theories, and policies in both Micro- and Macro- Economics. At the Micro level, it covers demand and supply analysis, consumer theory, production costs, and market structure. At the Macro level, it covers national income and output determination, money and banking, unemployment and inflation, and fiscal and monetary policies

Required Common Core Courses

ACO 602 Managerial Accounting (3 cr.)

This course shows that the foundation of an effective decision-making process is quality information, and that management accounting is indispensable for managers to produce financial and operating information regarding the economic condition of the organization. The course highlights management accountants as team players in decision-making and corporate management, rather than as bean counters confined to back offices.

BAD 602 Business and Marketing Management (3 cr.)

This course examines the business environment and the strategic marketing decisions that top management faces. It presents the key concepts of planning, organizing, leading, and controlling which are essential to efficient and effective business management; moreover, it covers market orientation, market analysis, marketing mix strategies, strategic marketing, marketing planning, and developing an integrated marketing plan which are the basis of modern marketing.

BAD 680 Research Project (3 cr.)

This course is an application of research methodology. Students may choose to take a research project related to their area of concentration after the accomplishment of 30 credits.

BAD 690 Thesis (6 cr.)

Students may choose to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, after completing 30 graduate credits.

BAF 602 Managerial Finance (3 cr.)

This course provides a comprehensive and contemporary coverage of financial management. It focuses on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, it covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory.

Pre-requisite: ACO 602

BRM 612 Business Research Methods (3 cr.)

This course develops an intensive and advanced study of the objectives and methodologies of research for business decisions and how to design and report experiments. Topics include techniques for defining problems; research design; research proposal; how to write a research paper; fundamentals of data manipulation: analysis and interpretation using the statistical package SPSS; multiple regression; time series and cross sectional analysis; MANOVA; principal components analysis; factor analysis; and canonical correlation. **This course must be taken after completing 12 credits.**

ECN 602 Managerial Economics (3 cr.)

This course applies economic theory and methodology to managerial decision-making problems within various organizational settings such as firms or government agencies. The emphasis will be on demand analysis and estimation, production and cost analysis under different market conditions, and forecasting and decision-making under conditions of uncertainty. Students should have had some exposure to economics and basic algebra; knowledge of calculus is helpful although not necessary.

Concentration Courses

Finance and Economics

1. BAF 604 Economics of Financial Markets (3 cr.)

The module is one of the building blocks of the program. It familiarizes students with key concepts in the field of finance and provides an introduction to the functioning of financial markets. The module follows by exploring money and capital markets and explaining different investment instruments traded therein. An important part of the course entertains the role of interest rates in debt markets and the no-arbitrage valuation of bonds. The module finishes with the introduction of financial derivatives. This includes understanding no-arbitrage pricing techniques for swaps, forwards and futures derived from debt markets, and for stock options from equity markets.

Pre-requisite: BAF 602

2. BAF 606 Asset Pricing (3 cr.)

The course provides an overview of the central topics in Asset Pricing and the Portfolio Theory, with a particular focus on the relationship between asset pricing and macroeconomic issues.

Pre-requisite: BAF 602

3. BAF 608 International Money and Finance (3 cr.)

This module is designed to extend and deepen students' understanding of key issues relating to finance in open economy contexts. Many of the issues covered, such as the impact of financial market integration on a country's monetary autonomy are of vital importance to policy makers and an advanced exposure to these issues will help prepare students for the challenges of careers in the financial industry as well as in government and multilateral bodies.

Pre-requisite: BAF 602

4. BAF 610 Derivatives (3 cr.)

This course focuses on options and / or futures, derivatives, and/ or risk management at an advanced level. It presents a detailed but flexible coverage of options, futures, forwards, swaps, and risk management - as well as a solid introduction to pricing, trading, and strategy - and offers an outstanding blend of institution material, theory, and practical applications.

Prerequisite: BAF 602

5. ECN 604 Applied Econometrics (3 cr.)

The course applies the most important econometrics techniques to data in Economics and Finance using computer packages. It covers applications to “Simultaneous Equation Models”, “Time Series Analysis”, “Panel Data”, “Non-Linear Regression”, “Vector Auto-regression” and Simulation Techniques. It presents too the most important forecasting methods to firms.

6. ECN 606 Urban Economics (3 cr.)

The course studies the development and growth of urban areas and examines specific urban issues such as pollution, housing, land use, telecommunication and public transportation. The course provides an economic framework to analyze the structure of economic activity within the urban and regional context, including the role of government. Topics include the determinants of industrial, commercial and residential location, as well as the economics of land markets.

7. ECN 608 Political Economy (3 cr.)

The course studies the determinants of the size and form of distributive programs, the extent and type of public goods provision and the burden of taxation across alternative tax bases. It discusses several related areas including the origins of the state, comparative political systems, economic reforms, fiscal problems, rule of law, privatization, elections and the economy.

8. ECN 610 Economic Development (3 cr.)

The course studies the major economic and non-economic determinants of development in developing countries and the theories and models of development. It discusses the economic underpinnings of the financial issues that affect developing countries. It discusses too issues related to agriculture, industrial development, health, nutrition, productivity, gender bias, education and technology adoption.

9. IBL 604 International Business Law (3 cr.)

The course examines the international framework of business transactions including: the legal conditions for mergers and acquisitions, joint ventures, franchising, licensing, transport contracts,

copyrights, patents, litigations, contracts performance, breach of contract and their extinction, bankruptcy, arbitration, letter of intent, conformity rules, confidentiality, and technology transfer

Project and Operations Management

1. BAD 606 Leadership and Change Management (3 cr.)

This course explores the reasons and contexts of the rise of the modern entrepreneur as an innovative individual business leader in innovative organizations with innovative management structures, values, and motivation. The course also explores consumer's culture and expectations and the required strategies and organizational structures in the framework of a more competitive and fast-changing global business and economy environment. During continuous change and in turbulent times, the *management of change* requires the preparation of *new managers* equipped to deal with all possible scenarios that may arise. Case studies of real-world great business entrepreneurs will be examined.

2. BAD 612 Management Information Technology (3 cr.)

Information systems are one of the major tools available to business managers for achieving operational excellence, developing new products and services, improving decision making, and achieving competitive advantage. The objective of this course is to prepare students for the real world of global business and information technology. Covering both, the technology and the management of information systems, this course explores how businesses use information systems to improve performance. The course also covers how information systems help in enhancing the different types of decisions that managers make.

3. IBL 604 International Business Law*(3 cr.)

4. MRK 608 Customer Relationship Management (3 cr.)

This course displays an enterprise approach to understanding customer acquisition, customer retention, and customer value through building and maintaining long-term relationships with the right customers. The use of information technology enables organizations to build integrated databases and exchange relevant information with their current and potential customers. Students are introduced to CRM as a variety of systems that can be packaged together, such as sales force automation, call center operations, service systems, and so forth.

5. POM 604 Operations and Quality Management (3 cr.)

This course covers operations strategy, product and process designs, the choice of technology, quality control systems, scheduling, supply chain management, production cycle, etc. The course deals with the management problems encountered in the context of both manufacturing and service enterprises. It also discusses the policy of *optimal inventory*. Focus will be on the problem of *Quality Management* that leads to *business excellence*, as reflected in customers' and employees' satisfaction, efficient processes, and high performance in the domestic and global markets.

6. POM 606 Project Planning and Inventory Control (3 cr.)

This course deals with the tools of project planning, selection, implementation, and evaluation. It examines topics such as teamwork, budgeting, scheduling, resource allocation, task crushing, warehousing strategies, inventory management, and cost control. Examples will be drawn from product type companies, service companies and retailers by covering the majority of issues that are unique to each of these industries. A software package will be used.

7. POM 608 Logistics and Supply Chain Strategies (3 cr.)

This course focuses on the value created by each and all firms involved in the procurement, production, distribution, and marketing of a given product from the raw material stage to the final consumer stage. The course approaches these issues through analytical integration of the contributions of procurement and operations management, logistics, and marketing. This analytical approach culminates in developing effective chain strategies. Concepts such as risk-pooling, integrated planning and inventory placement will also be discussed and utilized.

8. POM 610 Global Logistics and Supply Chain Management (3 cr.)

This course aims at presenting the theories and applications of global logistics and supply chain management encompassing both practical and strategic perspectives. It takes a global perspective,

recognizing the trans-national nature of logistics activities in today's world. It also presents the dynamic and evolving role of supply chain management among multinational firms.

9. POM 612 Transportation Strategy (3 cr.)

This course examines the five modes of transportation, costs and pricing in transportation, and how to choose the best model and carrier for a shipment. Real-world examples and case studies are analyzed dealing with the current trends in various industries and markets.

10. POM 620 Special Topics in Logistics and Supply Chain Management (3 cr.)

This course examines selected topics in logistics and Supply Chain Management with emphasis on real-world examples, case studies and current issues.

Management and Marketing

1. BAD 604 Organizational Behavior (3 cr.)

This course studies organizational behavior across all levels of organizational life: individual, interpersonal, group, organizational, and societal. Problems discussed and dealt with include motivation, communications, leadership, group dynamics, power, organizational structures and design, and various types of environmental constraints including competition, markets, and governmental regulations. Lecture, discussion, group problem solving and project reports are included in instructional methodology.

2. BAD 606 Leadership and Change Management (3 cr.)

This course explores the reasons and contexts of the rise of the modern manager as creative individual business leader in organizations with innovative management structures, values, and motivation. The course also explores consumer's culture and expectations and the required strategies and organizational structures in the framework of a more competitive and fast-changing global business and economy environment. During continuous change and in turbulent times, the *management of change* requires the preparation of *new managers* equipped to deal with all possible scenarios that may arise.

3. BAD 608 Entrepreneurship and Small Business Management(3 cr.)

This course focuses on the role of the *entrepreneur* in facing the challenges of starting and managing a successful enterprise (or re-vitalizing an established one) in an increasingly global, technologically innovative and competitive business environment. Students are expected to develop a complete business plan. The dynamic framework of the *family business*'s entrepreneurial role, corporate governance, family culture, values, motivation, harmony and conflicts will also be discussed, evaluated, and integrated.

4. BAD 610 Intercultural Management (3 cr.)

This course covers advanced 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, strategies alliances and international human resources management. The course also examines the multinational organizational behavior and its implication for home and host countries. A variety of advanced topics will be investigated such as the analysis of organizational strategy, economic impact of multinationals, and differences across cultures.

5. BAD 620 Special Topics in Management, Strategy, and/or Marketing (3 cr.)

This course examines selected topics in Management and Strategy with emphasis on real-world examples, case studies, and current issues.

6. IBL 604 International Business Law* (3 cr.)

7. MRK 604 Consumer Behavior and Rights (3 cr.)

This course examines the many forms of consumer behavior, the principles explaining why consumers behave the way they do, the implications for marketing and advertising, and the methodologies and research techniques used for studying consumer behavior. It focuses on the main rights of the consumer and the different means to protect them.

8. MRK 606 Retail Management (3 cr.)

This course provides a comprehensive approach to all aspects of retailing and the fundamental elements

of retail management and retail organizations' activities, so that the student will have a solid platform on Total Retail Experience (TRE). The course also introduces and evaluates various retail strategies and tactics that help retailers create a competitive advantage over competitors. It adopts various tools focusing on customer delight and retention, such as Value Chains, CRM, and other tools.

9. MRK 608 Customer Relationship Management (3 cr.)

This course displays an enterprise approach to understanding customer acquisition, customer retention, and customer value through building and maintaining long-term relationships with the right customers. The use of information technology enables organizations to build integrated databases and exchange relevant information with their current and potential customers. Students are introduced to CRM as a variety of systems that can be packaged together, such as sales force automation, call center operations, service systems, and so forth.

10. MRK 610 Sales Force and Sales Promotion (3 cr.)

The course shows how to enhance selling effectiveness, sales organization, and sales management decision problems. It presents the different stages of behavioral communication policy, and the techniques for measuring promotional results.

Human Resources Management

1. BAD 604 Organizational Behavior* (3 cr.)
2. BAD 606 Leadership and Change Management* (3 cr.)
3. BAD 610 Intercultural Management* (3 cr.)
4. BAD 612 Management Information Technology* (3 cr.)
5. HRM 604 Recruitment, Selection and Performance Management (3 cr.)

This course addresses human planning, recruitment policies and practices, pre-employment selections, interviewing and testing, developing training human resources, and personnel appraisal in terms of evaluating employee performance.

6. HRM 606 Labor Management Relations (3 cr.)

This course discusses the relationships between unions, workers, management and government. Topics include collective bargaining, labor disputes resolution, strikes, arbitration, wages, employment security, and labor legislation.

7. HRM 608 Strategic Human Resources Development (3 cr.)

This course covers part of the strategic management process of a given organization, since the organization is dependent on effectively utilizing and enhancing all of its sources to cope with current and future contingencies. It is about human resources development strategies, which can contribute to the overall directions of the organization.

8. HRM 620 Special Topics in Human Resources (3 cr.)

This course examines selected topics on human resources, such as manpower planning, human resources information, action systems, organizational development, human resources and technological change, performance measurement and reward systems, labor and industrial relations.

9. IBL 604 International Business Law* (3 cr.)

* Courses are offered in more than one concentration

The Degree of Master of Business Administration - MBA
Concentration: Finance and Economics

I. Required Common Core Courses (18 cr. if research project or 21 cr. if thesis option)

- ACO 602	Managerial Accounting	3 cr.
- BAD 602	Business and Marketing Management	3 cr.
- BAF 602	Managerial Finance	3 cr.
- BRM 612	Business Research Methods	3 cr.
- ECN 602	Managerial Economics	3 cr.
Option		
- BAD 680	Research Project	3 cr.
or		
- BAD 690	Thesis	6 cr.

II. Concentration Courses (18 cr. if research project or 15 cr. if thesis option)

- ECN 604	Applied Econometrics	3 cr.
- ECN 606	Urban Economics	3 cr.
- ECN 608	Political Economy	3 cr.
- ECN 610	Economic Development	3 cr.
- BAF 604	Economics of Financial Markets	3 cr.
- BAF 606	Asset Pricing	3 cr.
- BAF 608	International Money and Finance	3 cr.
- BAF 610	Derivatives	3 cr.
- IBL 604	International Business Law	3 cr.

III. Faculty Elective Course (3 cr.):

The faculty elective course should be selected from the other 3 areas of concentration

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GRADUATE COURSES
FINANCE AND ECONOMICS

ACO 602 Financial and Managerial Accounting (3 cr.)
This course shows that the foundation of an effective decision-making process is quality information, and that management accounting is indispensable for managers to produce financial and operating information regarding the economic condition of the organization. The course highlights management accountants as team players in decision-making and corporate management, rather than as bean counters confined to back offices.

BAD 602 Business and Marketing Management (3 cr.)
This course examines the business environment and the strategic marketing decisions that top management faces. It presents the key concepts of planning, organizing, leading, and controlling which are essential to efficient and effective business management; moreover, it covers market

orientation, market analysis, marketing mix strategies, strategic marketing, marketing planning, and developing an integrated marketing plan which are the basis of modern marketing.

BAD 680 Research Project (3 cr.)
This course is an application of research methodology. Students may choose to take a research project related to their area of concentration after the accomplishment of 30 credits.

BAD 690 Thesis (6 cr.)
Students may choose to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, after completing 30 graduate credits.

BAF 602 Managerial Finance (3 cr.)
This course provides a comprehensive and contemporary coverage of financial management. It focuses on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, it covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory.
Pre-requisite: ACO 602

BAF 604 Economics of Financial Markets (3 cr.)
The module is one of the building blocks of the program. It familiarizes students with key concepts in the field of finance and provides an introduction to the functioning of financial markets. The module follows by exploring money and capital markets and explaining different investment instruments traded therein. An important part of the course entertains the role of interest rates in debt markets and the no-arbitrage valuation of bonds. The module finishes with the introduction of financial derivatives. This includes understanding no-arbitrage pricing techniques for swaps, forwards and futures derived from debt markets, and for stock options from equity markets.
Pre-requisite: BAF 602

BAF 606 Asset Pricing (3 cr.)
The course provides an overview of the central topics in Asset Pricing and the Portfolio Theory, with a particular focus on the relationship between asset pricing and macroeconomic issues.
Pre-requisite: BAF 602

BAF 608 International Money and Finance (3 cr.)
This module is designed to extend and deepen students' understanding of key issues relating to finance in open economy contexts. Many of the issues covered, such as the impact of financial market integration on a country's monetary autonomy are of vital importance to policy makers and an advanced exposure to these issues will help prepare students for the challenges of careers in the financial industry as well as in government and multilateral bodies.
Pre-requisite: BAF 602

BAF 610 Derivatives (3 cr.)
This course focuses on options and / or futures, derivatives, and/ or risk management at an advanced level. It presents a detailed but flexible coverage of options, futures, forwards, swaps, and risk management - as well as a solid introduction to pricing, trading, and strategy - and offers an outstanding blend of institution material, theory, and practical applications. Prerequisite:
Pre-requisite: BAF 602

BRM 612 Business Research Methods (3 cr.)
This course develops an intensive and advanced study of the objectives and methodologies of

research for business decisions and how to design and report experiments. Topics include techniques for defining problems; research design; research proposal; how to write a research paper; fundamentals of data manipulation: analysis and interpretation using the statistical package SPSS; multiple regression; time series and cross sectional analysis; MANOVA; principal components analysis; factor analysis; and canonical correlation. This course is to be taken at most during the second semester as a graduate student.
This course must be taken after completing 12 credits.

ECN 602 Managerial Economics (3 cr.)
This course applies economic theory and methodology to managerial decision-making problems within various organizational settings such as firms or government agencies. The emphasis will be on demand analysis and estimation, production and cost analysis under different market conditions, and forecasting and decision-making under conditions of uncertainty. Students should have had some exposure to economics and basic algebra; knowledge of calculus is helpful although not necessary.

ECN 604 Applied Econometrics (3 cr.)
The course applies the most important econometrics techniques to data in Economics and Finance using computer packages. It covers applications to "Simultaneous Equation Models", "Time Series Analysis", "Panel Data", "Non-Linear Regression", "Vector Auto-regression" and Simulation Techniques. It presents too the most important forecasting methods to firms.

ECN 606 Urban Economics (3 cr.)
The course studies the development and growth of urban areas and examines specific urban issues such as pollution, housing, land use, telecommunication and public transportation. The course provides an economic framework to analyze the structure of economic activity within the urban and regional context, including the role of government. Topics include the determinants of industrial, commercial and residential location, as well as the economics of land markets.

ECN 608 Political Economy (3 cr.)
The course studies the determinants of the size and form of distributive programs, the extent and type of public goods provision and the burden of taxation across alternative tax bases. It discusses several related areas including the origins of the state, comparative political systems, economic reforms, fiscal problems, rule of law, privatization, elections and the economy.

ECN 610 Economic Development (3 cr.)
The course studies the major economic and non-economic determinants of development in developing countries and the theories and models of development. It discusses the economic underpinnings of the financial issues that affect developing countries. It discusses too issues related to agriculture, industrial development, health, nutrition, productivity, gender bias, education and technology adoption.

IBL 604 International Business Law (3 cr.)
The course examines the international framework of business transactions including: the legal conditions for mergers and acquisitions, joint ventures, franchising, licensing, transport contracts, copyrights, patents, litigations, contracts performance, breach of contract and their extinction, bankruptcy, arbitration, letter of intent, conformity rules, confidentiality, and technology transfer

The Degree of Master of Business Administration - MBA
Concentration: Human Resources Management

I. Required Common Core Courses (18 cr. if research project or 21 cr. if thesis option)

- ACO 602	Managerial Accounting	3 cr.
- BAD 602	Business and Marketing Management	3 cr.
- BAF 602	Managerial Finance	3 cr.
- BRM 612	Business Research Methods	3 cr.
- ECN 602	Managerial Economics	3 cr.
Option		
-BAD 680	Research Project	3 cr.
or		
-BAD 690	Thesis	6 cr.

II. Concentration Courses (18 cr. if research project or 15 cr. if thesis option)

- BAD 604	Organizational Behavior	3 cr.
- BAD 606	Leadership and Change Management	3 cr.
- BAD 610	Intercultural Management	3 cr.
- BAD 612	Management Information Technology 3 cr.	
- HRM 604	Recruitment, Selection & Performance Management	3 cr.
- HRM 606	Labor Management Relations	3 cr.
- HRM 608	Strategic Human Resources Development	3 cr.
- HRM 620	Special Topics in Human Resources	3 cr.
- IBL 604	International Business Law	3 cr.

III. Faculty Elective Course (3 cr.):

The faculty elective course should be selected from the other 3 areas of concentration

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GRADUATE COURSES
HUMAN RESOURCES MANAGEMENT

ACO 602 Financial and Managerial Accounting (3 cr.)
This course shows that the foundation of an effective decision-making process is quality information, and that management accounting is indispensable for managers to produce financial and operating information regarding the economic condition of the organization. The course highlights management accountants as team players in decision-making and corporate management, rather than as bean counters confined to back offices.

BAD 602Business and Marketing Management (3 cr.)
This course examines the business environment and the strategic marketing decisions that top management faces. It presents the key concepts of planning, organizing, leading, and controlling which are essential to efficient and effective business management; moreover, it covers market orientation, market analysis, marketing mix strategies, strategic marketing, marketing planning, and developing an integrated marketing plan which are the basis of modern marketing.

BAD 604 Organizational Behavior (3 cr.)
This course studies organizational behavior across all levels of organizational life: individual, interpersonal, group, organizational, and societal. Problems discussed and dealt with include motivation, communications, leadership, group dynamics, power, organizational structures and design, and various types of environmental constraints including competition, markets, and governmental regulations. Lecture, discussion, group problem solving and project reports are included in instructional methodology.

BAD 606 Leadership and Change Management (3 cr.)
This course explores the reasons and contexts of the rise of the modern manager as creative individual business leader in organizations with innovative management structures, values, and motivation. The course also explores consumer's culture and expectations and the required strategies and organizational structures in the framework of a more competitive and fast-changing global business and economy environment. During continuous change and in turbulent times, the *management of change* requires the preparation of *new managers* equipped to deal with all possible scenarios that may arise.

BAD 610 Intercultural Management (3 cr.)
This course covers advanced 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, strategies alliances and international human resources management. The course also examines the multinational organizational behavior and its implication for home and host countries. A variety of advanced topics will be investigated such as the analysis of organizational strategy, economic impact of multinationals, and differences across cultures.

BAD 612 Management Information Technology (3 cr.)
Information systems are one of the major tools available to business managers for achieving operational excellence, developing new products and services, improving decision making, and achieving competitive advantage. The objective of this course is to prepare students for the real world of global business and information technology. Covering both, the technology and the management of information systems, this course explores how businesses use information systems to improve performance. The course also covers how information systems help in enhancing the different types of decisions that managers make.

BAD 680 Research Project (3 cr.)
This course is an application of research methodology. Students may choose to take a research project related to their area of concentration after the accomplishment of 30 credits.

BAD 690 Thesis (6 cr.)
Students may choose to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, after completing 30 graduate credits.

BAF 602 Managerial Finance (3 cr.)
This course provides a comprehensive and contemporary coverage of financial management. It focuses on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, it covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory.
Pre-requisite: ACO 602

BRM 612 Business Research Methods (3 cr.)
This course develops an intensive and advanced study of the objectives and methodologies of research for business decisions and how to design and report experiments. Topics include techniques for defining problems; research design; research proposal; how to write a research paper; fundamentals of data manipulation: analysis and interpretation using the statistical package SPSS; multiple regression; time series and cross sectional analysis; MANOVA; principal components analysis; factor analysis; and canonical correlation. This course is to be taken at most during the second semester as a graduate student.
This course must be taken after completing 12 credits.

ECN 602 Managerial Economics (3 cr.)
This course applies economic theory and methodology to managerial decision-making problems within various organizational settings such as firms or government agencies. The emphasis will be on demand analysis and estimation, production and cost analysis under different market conditions, and forecasting and decision-making under conditions of uncertainty. Students should have had some exposure to economics and basic algebra; knowledge of calculus is helpful although not necessary.

HRM 604 Recruitment, Selection and Performance Management (3 cr.)
This course addresses human planning, recruitment policies and practices, pre-employment selections, interviewing and testing, developing training human resources, and personnel appraisal in terms of evaluating employee performance.

HRM 606 Labor Management Relations (3 cr.)
This course discusses the relationships between unions, workers, management and government. Topics include collective bargaining, labor disputes resolution, strikes, arbitration, wages, employment security, and labor legislation.

HRM 608 Strategic Human Resources Development (3 cr.)
This course covers part of the strategic management process of a given organization, since the organization is dependent on effectively utilizing and enhancing all of its sources to cope with current and future contingencies. It is about human resources development strategies, which can contribute to the overall directions of the organization.

HRM 620 Special Topics in Human Resources (3 cr.)
This course examines selected topics on human resources, such as manpower planning, human resources information, action systems, organizational development, human resources and technological change, performance measurement and reward systems, labor and industrial relations.

IBL 604 International Business Law (3 cr.)
The course examines the international framework of business transactions including: the legal conditions for mergers and acquisitions, joint ventures, franchising, licensing, transport contracts, copyrights, patents, litigations, contracts performance, breach of contract and their extinction, bankruptcy, arbitration, letter of intent, conformity rules, confidentiality, and technology transfer

The Degree of Master of Business Administration - MBA
Concentration: Management and Marketing

I. Required Common Core Courses (18 cr. if research project or 21 cr. if thesis option)

- ACO 602	Managerial Accounting	3 cr.
- BAD 602	Business and Marketing Management	3 cr.
- BAF 602	Managerial Finance	3 cr.
- BRM 612	Business Research Methods	3 cr.
- ECN 602	Managerial Economics	3 cr.

Option

- BAD 680	Research Project	3 cr.
or		
- BAD 690	Thesis	6 cr.

II. Concentration Courses (18 cr. if research project or 15 cr. if thesis option)

- BAD 604	Organizational Behavior	3 cr.
- BAD 606	Leadership and Change Management	3 cr.
- BAD 608	Entrepreneurship & Small Business Management	3 cr.
- BAD 610	Intercultural Management	3 cr.
- BAD 620	Special Topics in Management, Strategy, and/or Marketing	3 cr.
- MRK 604	Consumer Behavior and Rights	3 cr.
- MRK 606	Retail Management	3 cr.
- MRK 608	Customer Relationship Management	3 cr.
- MRK 610	Sales Force and Sales Promotion	3 cr.
- IBL 604	International Business Law	3 cr.

III. Faculty Elective Course (3 cr.):
The faculty elective course should be selected from the other 3 areas of concentration

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GRADUATE COURSES
Management & Marketing

ACO 602 Financial and Managerial Accounting (3 cr.)
This course shows that the foundation of an effective decision-making process is quality information, and that management accounting is indispensable for managers to produce financial and operating information regarding the economic condition of the organization. The course highlights management accountants as team players in decision-making and corporate management, rather than as bean counters confined to back offices.

BAD 602 Business and Marketing Management (3 cr.)
This course examines the business environment and the strategic marketing decisions that top management faces. It presents the key concepts of planning, organizing, leading, and controlling which are essential to efficient and effective business management; moreover, it covers market

orientation, market analysis, marketing mix strategies, strategic marketing, marketing planning, and developing an integrated marketing plan which are the basis of modern marketing.

BAD 604 Organizational Behavior (3 cr.)
This course studies organizational behavior across all levels of organizational life: individual, interpersonal, group, organizational, and societal. Problems discussed and dealt with include motivation, communications, leadership, group dynamics, power, organizational structures and design, and various types of environmental constraints including competition, markets, and governmental regulations. Lecture, discussion, group problem solving and project reports are included in instructional methodology.

BAD 606 Leadership and Change Management (3 cr.)
This course explores the reasons and contexts of the rise of the modern manager as creative individual business leader in organizations with innovative management structures, values, and motivation. The course also explores consumer's culture and expectations and the required strategies and organizational structures in the framework of a more competitive and fast-changing global business and economy environment. During continuous change and in turbulent times, the *management of change* requires the preparation of *new managers* equipped to deal with all possible scenarios that may arise.

BAD 608 Entrepreneurship and Small Business Management (3 cr.)
This course focuses on the role of the *entrepreneur* in facing the challenges of starting and managing a successful enterprise (or re-vitalizing an established one) in an increasingly global, technologically innovative and competitive business environment. Students are expected to develop a complete business plan. The dynamic framework of the *family business*'s entrepreneurial role, corporate governance, family culture, values, motivation, harmony and conflicts will also be discussed, evaluated, and integrated.

BAD 610 Intercultural Management (3 cr.)
This course covers advanced 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, strategies alliances and international human resources management. The course also examines the multinational organizational behavior and its implication for home and host countries. A variety of advanced topics will be investigated such as the analysis of organizational strategy, economic impact of multinationals, and differences across cultures.

BAD 620 Special Topics in Management, Strategy, and/or Marketing (3 cr.)
This course examines selected topics in Management and Strategy with emphasis on real-world examples, case studies, and current issues.

BAD 680 Research Project (3 cr.)
This course is an application of research methodology. Students may choose to take a research project related to their area of concentration after the accomplishment of 30 credits.

BAD 690 Thesis (6 cr.)
Students may choose to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, after completing 30 graduate credits.

BAF 602 Managerial Finance (3 cr.)
This course provides a comprehensive and contemporary coverage of financial management. It focuses on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, it covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory.

Pre-requisite: ACO 602

BRM 612 Business Research Methods (3 cr.)
This course develops an intensive and advanced study of the objectives and methodologies of research for business decisions and how to design and report experiments. Topics include techniques for defining problems; research design; research proposal; how to write a research paper; fundamentals of data manipulation: analysis and interpretation using the statistical package SPSS; multiple regression; time series and cross sectional analysis; MANOVA; principal components analysis; factor analysis; and canonical correlation. This course is to be taken at most during the second semester as a graduate student.
This course must be taken after completing 12 credits.

ECN 602 Managerial Economics (3 cr.)
This course applies economic theory and methodology to managerial decision-making problems within various organizational settings such as firms or government agencies. The emphasis will be on demand analysis and estimation, production and cost analysis under different market conditions, and forecasting and decision-making under conditions of uncertainty. Students should have had some exposure to economics and basic algebra; knowledge of calculus is helpful although not necessary.

IBL 604 International Business Law (3 cr.)
The course examines the international framework of business transactions including: the legal conditions for mergers and acquisitions, joint ventures, franchising, licensing, transport contracts, copyrights, patents, litigations, contracts performance, breach of contract and their extinction, bankruptcy, arbitration, letter of intent, conformity rules, confidentiality, and technology transfer.

MRK 604 Consumer Behavior and Rights (3 cr.)
This course examines the many forms of consumer behavior, the principles explaining why consumers behave the way they do, the implications for marketing and advertising, and the methodologies and research techniques used for studying consumer behavior. It focuses on the main rights of the consumer and the different means to protect them.

MRK 606 Retail Management (3 cr.)
This course provides a comprehensive approach to all aspects of retailing and the fundamental elements of retail management and retail organizations' activities, so that the student will have a solid platform on Total Retail Experience (TRE). The course also introduces and evaluates various retail strategies and tactics that help retailers create a competitive advantage over competitors. It adopts various tools focusing on customer delight and retention, such as Value Chains, CRM, and other tools.

MRK 608 Customer Relationship Management (3 cr.)
This course displays an enterprise approach to understanding customer acquisition, customer retention, and customer value through building and maintaining long-term relationships with the right customers. The use of information technology enables organizations to build integrated databases and exchange relevant information with their current and potential customers. Students are introduced to CRM as a variety of systems that can be packaged together, such as sales force automation, call center operations, service systems, and so forth.

MRK 610 Sales Force and Sales Promotion (3 cr.)
The course shows how to enhance selling effectiveness, sales organization, and sales management decision problems. It presents the different stages of behavioral communication policy, and the techniques for measuring promotional results.

The Degree of Master of Business Administration - MBA
Concentration: Project & Operations Management

I. Required Common Core Courses (18 cr. if research project or 21 cr. if thesis option)

- ACO 602	Managerial Accounting	3 cr.
- BAD 602	Business and Marketing Management	3 cr.
- BAF 602	Managerial Finance	3 cr.
- BRM 612	Business Research Methods	3 cr.
- ECN 602	Managerial Economics	3 cr.

Option

- BAD 680	Research Project	3 cr.
or		
- BAD 690	Thesis	6 cr.

II. Concentration Courses (18 cr. if research project or 15 cr. if thesis option)

- BAD 606	Leadership and Change Management	3 cr.
- BAD 612	Management Information Technology	3 cr.
- MRK 608	Customer Relationship Management	3 cr.
- POM 604	Operations and Quality Management	3 cr.
- POM 606	Project Planning and Inventory Control	3 cr.
- POM 608	Logistics and Supply Chain Strategies	3 cr.
- POM 610	Global Logistics & Supply Chain Management	3 cr.
- POM 612	Transportation Strategy	3 cr.
- POM 620	Special Topics in Logistics & Supply Chain Management	3 cr.
- IBL 604	International Business Law	3 cr.

III. Faculty Elective Course (3 cr.):

The faculty elective course should be selected from the other 3 areas of concentration

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GRADUATE COURSES
PROJECT AND OPERATIONS MANAGEMENT

ACO 602 Financial and Managerial Accounting (3 cr.)
This course shows that the foundation of an effective decision-making process is quality information, and that management accounting is indispensable for managers to produce financial and operating information regarding the economic condition of the organization. The course highlights management accountants as team players in decision-making and corporate management, rather than as bean counters confined to back offices.

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This course examines the business environment and the strategic marketing decisions that top management faces. It presents the key concepts of planning, organizing, leading, and controlling which are essential to efficient and effective business management; moreover, it covers market

orientation, market analysis, marketing mix strategies, strategic marketing, marketing planning, and developing an integrated marketing plan which are the basis of modern marketing.

BAD 606 Leadership and Change Management (3 cr.)
This course explores the reasons and contexts of the rise of the modern entrepreneur as an innovative individual business leader in innovative organizations with innovative management structures, values, and motivation. The course also explores consumer's culture and expectations and the required strategies and organizational structures in the framework of a more competitive and fast-changing global business and economy environment. During continuous change and in turbulent times, the *management of change* requires the preparation of *new managers* equipped to deal with all possible scenarios that may arise. Case studies of real-world great business entrepreneurs will be examined.

BAD 612 Management Information Technology (3 cr.)
Information systems are one of the major tools available to business managers for achieving operational excellence, developing new products and services, improving decision making, and achieving competitive advantage. The objective of this course is to prepare students for the real world of global business and information technology. Covering both, the technology and the management of information systems, this course explores how businesses use information systems to improve performance. The course also covers how information systems help in enhancing the different types of decisions that managers make.

BAD 680 Research Project (3 cr.)
This course is an application of research methodology. Students may choose to take a research project related to their area of concentration after the accomplishment of 30 credits.

BAD 690 Thesis (6 cr.)
Students may choose to write a thesis (6 cr.) on a significant problem in business administration selected from their area of concentration, after completing 30 graduate credits.

BAF 602 Managerial Finance (3 cr.)
This course provides a comprehensive and contemporary coverage of financial management. It focuses on shareholder wealth maximization and cash flow management, as well as on the international aspects of financial management. In addition, it covers financial analysis and financial decisions, capital budgeting decisions under risk, and capital structure theory.
Pre-requisite: ACO 602

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This course develops an intensive and advanced study of the objectives and methodologies of research for business decisions and how to design and report experiments. Topics include techniques for defining problems; research design; research proposal; how to write a research paper; fundamentals of data manipulation: analysis and interpretation using the statistical package SPSS; multiple regression; time series and cross sectional analysis; MANOVA; principal components analysis; factor analysis; and canonical correlation. This course is to be taken at most during the second semester as a graduate student.
This course must be taken after completing 12 credits.

ECN 602 Managerial Economics (3 cr.)
This course applies economic theory and methodology to managerial decision-making problems within various organizational settings such as firms or government agencies. The emphasis will be on demand analysis and estimation, production and cost analysis under different market conditions, and forecasting and decision-making under conditions of uncertainty. Students should have had some exposure to economics and basic algebra; knowledge of calculus is helpful although not necessary.

IBL 604 International Business Law (3 cr.)
The course examines the international framework of business transactions including: the legal conditions for mergers and acquisitions, joint ventures, franchising, licensing, transport contracts, copyrights, patents, litigations, contracts performance, breach of contract and their extinction, bankruptcy, arbitration, letter of intent, conformity rules, confidentiality, and technology transfer

MRK 608 Customer Relationship Management (3 cr.)
This course displays an enterprise approach to understanding customer acquisition, customer retention, and customer value through building and maintaining long-term relationships with the right customers. The use of information technology enables organizations to build integrated databases and exchange relevant information with their current and potential customers. Students are introduced to CRM as a variety of systems that can be packaged together, such as sales force automation, call center operations, service systems, and so forth.

POM 604 Operations and Quality Management (3 cr.)
The purpose of this course is the research methodology and is related to the required research project to be completed by each MBA student after the accomplishment of his/her 36 credits.

POM 606 Project Planning and Inventory Control (3 cr.)
This course deals with the tools of project planning, selection, implementation, and evaluation. It examines topics such as teamwork, budgeting, scheduling, resource allocation, task crushing, warehousing strategies, inventory management, and cost control. Examples will be drawn from product type companies, service companies and retailers by covering the majority of issues that are unique to each of these industries. A software package will be used.

POM 608 Logistics and Supply Chain Strategies (3 cr.)
This course focuses on the value created by each and all firms involved in the procurement, production, distribution, and marketing of a given product from the raw material stage to the final consumer stage. The course approaches these issues through analytical integration of the contributions of procurement and operations management, logistics, and marketing. This analytical approach culminates in developing effective chain strategies. Concepts such as risk-pooling, integrated planning and inventory placement will also be discussed and utilized.

POM 610 Global Logistics and Supply Chain Management (3 cr.)
This course aims at presenting the theories and applications of global logistics and supply chain management encompassing both practical and strategic perspectives. It takes a global perspective, recognizing the trans-national nature of logistics activities in today's world. It also presents the dynamic and evolving role of supply chain management among multinational firms.

POM 612 Transportation Strategy (3 cr.)
This course examines the five modes of transportation, costs and pricing in transportation, and how to choose the best model and carrier for a shipment. Real-world examples and case studies are analyzed dealing with the current trends in various industries and markets.

POM 620 Special Topics in Logistics and Supply Chain Management (3 cr.)
This course examines selected topics in logistics and Supply Chain Management with emphasis on real-world examples, case studies and current issues.

Hospitality Events Management – HVM

Approved by the BOD on April 30 & UC May 24, 2010

The creation of a fourth concentration "Events Management" Within the DHTM.

I- **Overview**:

The events industry has significantly grown over the last ten years on both the household as well as the corporate or firm level. Thus, events management is increasingly becoming a need as a specialized field of study.

Events Management is a very diverse field that can range from a small in-house private function to a large scale event with possibly an international dimension such as: exhibition, convention, festival, artistic event, tournament, religious event, ceremony, music concert, wedding, funeral, conference, seminar, training, sports event, fashion-show, movie fair, festival, etc.

In Lebanon, the demand for Events Management has exponentially augmented over the past few years, since the concept of events is progressively being incorporated in the business and social environments. Among other examples: the vast majority of weddings are organized by wedding planners; launching of new establishments and especially touristic and hospitality institutions are mostly handled by events and public relations companies; children birthdays are always animated by clowns cartoon figures and magicians; the trend in funerals is to outsource food, service, flowers and communication to specialized service companies; exhibitions and conferences are mostly managed by event companies to secure lodging, translation, transportation, staging, F&B, TV & press releases, and marketing exposure.

In conclusion, the events concept has already been and will further be in the near future, integrated in the business and social way of life of Lebanese household and corporate institutions

II- **Rational for the creation of HVM**:

This program will allow the FBAE and hence NDU, to maintain its position as the pioneer in hospitality education in Lebanon and probably in the Middle East. The DHTM will be the first to offer such a specialization that meets the market requirements in academic as well as technical skills. The proposed program will be the first comprehensive program in higher education in Lebanon that meets the local as well as the International market needs. The DHTM believes that numerous job opportunities exist in this domain, and graduates in this concentration are highly demanded by the ever increasing number of events related companies.

Expected outcome of this concentration: students that can plan, organize, and execute an event; ex: exhibition, conference, wedding, and MICE. Students must be knowledgeable about the basics of food production costs, presentation services, etc. since most Events (MICE) include F&B, costing, finance and hospitality. The graduate is a potential manager of an event company, or event department in a hospitality institution that is mainly concerned with MICE.

The Department conducted an extensive research over a long period of time about events management programs or curriculums in different universities over different continents; among which few were considered as schools of aspiration, in events management programs or curriculums, such as:

1. Georges Washington University (USA).
2. San Diego University (USA).
3. MacQuarie University (Australia)
4. Souththampton University (UK)
5. International Fachhochschule Bad Honnef (Germany)
6. Ecole de Management Normandie (France)
7. University of Leeds (UK)
8. Niagara College (Canada)
9. Louisiana University (USA)
10. University of Surrey (UK)

11. London Metropolitan Business School (UK)

The aim of the department was to create a standardized international curriculum of events Management adapted to the Lebanese market needs.

III- **Disparities between HVM and EPM**:

The EPM was designed to be a "major" itself (103 credits).

"This program is meant to equip the students with a managerial background for Art" (EPM proposal, AIM paragraph). In fact, EPM was initially called APM as in Artistic Production Management due to the fact that it was mostly geared or inclined towards the management of artistic productions like movies, theater plays, music performances, etc, and then it was changed to EPM when an extra dimension, which is events, was added. EPM is about the management of technical skills & Artistic products, it obliges interfaculty cooperation. The outcome is a student with a potential to manage a theater play, movie, TV program, or an event. EPM includes 3 concentrations:

1- Theater production management
2- Movies production management
3- Events production management

The EPM as a major though approved in 2005 by the BOD and UCC, it was never implemented due to many reasons, among which:

- It required the collaboration of three different faculties, since most required courses were distributed between three disciplines
- It required numerous labs and equipment most of which do not exist and requiring extensive investment or must be shared with other departments
- Most courses in the major are of a technical nature (such as costume design, make-up, press release, etc hence the difficulty of finding PhD's in such fields of specialization
- As a major, EPM is defined under DHTM, but legally it might not be plausible to issue BHMT degrees from the DHTM with a movies or theater production management concentration
- Comparing the start up costs of the EPM major and the possibility of low enrollment over the successive years, the risk is relatively high waiting for some sort of guaranties on the enrollment side

As a result of the sterile above described situation, and based on the Dean's directives to salvage the events part of EPM that falls within the DHTM jurisdiction and bypasses most of the above mentioned constraints; the DHTM decided to adopt the events part which falls under its control variables and turn it into a viable concentration into its existing major, after making the necessary changes. The idea here is that the DHTM found it in its best interest to act promptly in the short run to avoid any opportunity costs in the market, waiting for the knots of the EPM major to be solved in the long run.

In conclusion, EPM is a major that must be implemented in the long run when its basic requirements are secured. While HVM is a concentration that can be implemented instantaneously since it requires no more labs than what the DHTM already has, in fact all what it entails is the recruitment of few part-time and maybe full-time faculty based on enrollment. In other words, the risk of sunk costs is almost zero with HVM; quite the reverse, the creation of this new concentration will enable the department to attract a higher number of students interested in this field. Moreover, it will maintain the position of the department as a pioneer in innovation and as a market leader in the local market in the Hospitality and Tourism industry.

IV- **Structure**:

The core courses or Major requirements remain the same for all concentrations including "Events Management". On the other hand, the following courses will be considered as: "Events Management concentration Requirements" (19 credits).

Courses offered within the HVM concentration, will be identified by the code HVM followed by the relative course number (as shown below). The course code and number will follow the general university rules and regulations i.e. sophomore level 200, junior level 300, and senior level 400. All courses are 3 credits courses except the internship which is 1 credit.

FACULTY OF BUSINESS ADMINISTRAT ION & ECONOMICS

Bachelor of Hotel Management and Tourism

Hospitality Events Management Concentration (103 credits)

General Education Requirements (GER): 30 cr.
Core Requirements: (Common to all Concentrations) 51 cr.

Major requirements: 19 cr.

- 5 courses will be required as major core courses:

1. HVM 201 (3 cr.): Introduction to the International Events Industry.
2. HVM 301 (3 cr.): Events Management Operations and Logistics.
3. HVM 311 (3cr.): Events Sponsorship, Fundraising and Partnership.
4. HVM 431 (3 cr.): Event Management Project.
5. HVM 382 (1cr.): Internship

Major Electives: 6 cr.

- 2 courses will be considered as Major electives from the following courses in addition to few courses that are already offered:

1. HVM 401 (3cr.): Contemporary Issues and Best Practices in Events Management.
2. HVM 414 (3cr.): Events Production and Technical issues.
3. HVM 416 (3cr.): Risk and Safety in Events Management.
4. HVM 420 (3cr.): Protocol and Etiquette in Event Management.
5. HVM 422 (3cr.): M.I.C.E (meetings, incentives, conferences, & exhibitions) MGT
6. HVM 425 (3cr.): Casino and Entertainment Management.
7. HVM 430 (3cr.): Recreational, Leisure and Sports Events Management.

Free Elective: 3 cr.

Sample Concentration Contract Sheet:

FACULTY OF BUSINESS ADMINISTRAT ION & ECONOMICS
Department of Hospitality and Tourism Management
GRADUATION REQUIREMENTS
Concentration: **EVENTS MANAGEMENT**
ID: _____

Major Requirements Courses (13 cr.)

Course No.	Cr.	Grade			Course No.	Cr.	Grade		
HVM 201	3				HVM 311	3			
HVM 301	3				HVM 431	3			
HVM 382	1								

Major Elective Courses For Events (6 cr.)

Course No.	Cr.	Grade			Course No.	Cr.	Grade		
HVM 401	3				HVM 422	3			
HVM 414	3				HVM 425	3			
HVM 416	3				HVM 430	3			
HVM 420	3								

Free Elective From Any Faculty (3 cr.)

Course No.	Cr.	Grade			Course No.	Cr.	Grade		
	3								

V- **Course Description**:

HVM 201: Introduction to the International Events Industry (3.0); 3 cr.
This course is the initiation of the international events industry. The students throughout this course will gain understanding of the scope and purposes of the wide variety of events. The different components, timeline, and major integral parts that constitute an event will be emphasized. Appropriate skills and knowledge will be developed, to adequately perform and assume responsibility of the management of an event. Practical exposure to case studies, field visits, and guest speakers will be part of this course.
HVM 301: Events Management Operations and Logistics (3.0); 3 cr.
This course is comprehensive that examines the details of event planning, management & operations. The students go through the nuts & bolts of events operations in terms of timeline, logistics, budget control, resources, stakeholders, laws & regulations methodologies in order to organize successful fly plan and management events. *Prerequisite: HVM 201*
HVM 311: Event Sponsorship, Fundraising and Partnership (3.0); 3 cr.
This course develops the students' research planning skills, to develop effective financial plans and feasibility studies, as well as to identify source and secure fund raising, sponsorship, and partnership opportunities. Applied case studies that investigate the above issues in the private, public, and non-profit sectors will be used intensively. *Prerequisite: HVM 201*
HVM 431: Events Management Project (3.0); 3 cr.
In this course, experiential learning opportunity will be given to the students to apply theoretical, knowledgeable, and practical skills acquired in class to organize and manage public events (from pre-paining concept phase, to executive & post evaluation phases). *Prerequisite: HVM 301*
HVM 382: Internship 1 cr.
A supervised on the job work experience in the events industry, particularly MICE, Arranged with a Department approved cooperating institution. This field experience - of no less than 500 hours – emphasizes operational involvement in the planning and execution of events. Students must follow the course's pre-set guidelines. Co-requisite: HEM 414.
HVM 401: Contemporary Issues and Best Practices in Events Management (3.0); 3 cr.
This course is a highly interactive course that is destined to identify major trends, contemporary issues, and best practices in the events management industry. Through intensive use of case studies drown from real life events. Students will have the opportunity to discuss and conduct post-event evaluations to identify success and failure factors, winning strategies, and potential challenges will be outlined. Thus, students will learn to develop alternative planning scenarios. *Prerequisite: HVM 201*
HVM 414: Events Production and Technical Issues (3.0); 3 cr.
This course conveys are advanced knowledge of key production & technical issues including: design, layout, printed material, power, lights, sound, audiovisual, information technology, special effect, music, colors, decoration, and costumers. As an event manager, the student will combine the theoretical

& practical applications in the above issues to employ methods that are effective & cost efficient. *Prerequisite: HVM 301*

HVM 416: Risks and Safety in Events Management (3.0); 3 cr.

A frame work of contingency procedures will be elaborated to respond to possible safety and security risks that can hinder an event execution. Legal, logistics, financial, risk assessment, and operational safe guards to ensure protection against failures, losses, damage, and injury will be emphasized. *Prerequisite: HVM 201*

HVM 420: Protocol and Etiquette in Events Management (3.0); 3 cr.

This course outlines the importance of protocol and etiquette in events management. The student will enhance his manners and savoir vivre skills in conducting events and business transactions. Areas like: the knowledge of agenda & time management, verbal & written communication, guest management, media management, dressing codes, postures and gestures, table manners will be emphasized. The outcome of the course is a student that carefully and professionally deals with both: known situations and difficult or unfamiliar situations to avoid social any "faux pas" that could ruin a perfectly good business deal. *Prerequisite: HVM 201*

HVM 422: M.I.C.E (meetings, incentives, conferences, and exhibition) Management (3.0); 3 cr.

This course serves as an overview of the Size and scope of the MICE industry. Upon completion, Students will acquire specialized managerial skills required to package, plan, execute and evaluate these product segments. The management of such events incorporate the determination of the purpose, the message, the budget, the selection of site, the negotiation of contracts, the prospection for attendees, the setting of dates & timelines, the management of exhibit spaces, the lodging services, the procurement of food and beverages, the telecommunications & audio-visual requirements, the transportation, the recruitment of labor & material, the measures of safety & security, the assessment of the event's success and all other related necessities. *Prerequisite: HVM 201*

HVM 425: Casino and Entertainment Management (3.0); 3 cr.

A specialized course that provides a blend of technical, operational and managerial knowledge that pertains to the gaming and entertainment businesses. The content emphasizes ethical and regulatory issues, technological and operational expertise, site and property management, security and surveillance systems, financial and marketing management, behavior-metrics and the relationship of the casino and entertainment industries to the overall tourism and socio-cultural environments. *Prerequisite: HVM 201*

HVM 430: Recreational, Leisure and Sports Events Management (3.0); 3 cr.

This course covers the guidelines and principles of managing, executing and evaluating recreational leisure and sport events. Students will broadly consider the different forms that these events can take; with a focus on the ones that are most popular. On top of the standard planning, logistics, funding, operations, design, maintenance, risk and safety tasks; Students will also learn to manage the interaction of the different stakeholders involved from a psychological and sociological perspectives. Patterns of behavior, control techniques, safety & environmental concerns, and demographic characteristics will be examined. *Prerequisite: HVM 201*

Faculty of Engineering
Electrical Computer and Communication Engineering Department
Curriculum Updates Fall 2010

Approved by the BOD on April 27, & UC on May 28, 2010

- **1.** Change in the course number, and course description of the EEN 355 course
- **2.** Change in the course number, and course description of the EEN 356 course
- **3.** Change in the co-requisite of ENG 202
- **4.** Change the content of EEN 344 and EEN 443
- **5.** Changes to EEN 327 / EEN 328
- **6.** Change in the prerequisites of EEN 330

1. Change in the course number, and course description of EEN 355

***New Description*:**
EEN 452 Fundamentals of Power Engineering (3.0); 3 cr. Power system components. Basic principles of electrical power systems. Generator and transformer models, steady-state characteristics and the per-unit system. Overhead transmission line parameters, capacitance and inductance. Transmission line model, performance and line compensation. Power flow analysis. *Prerequisite:* EEN 350.

***Rationale for Change*:**
The way this course is presently described in the NDU catalog does not reflect fairly what the students are learning in class. The requested change is in compliance with the recommendation of the author of the assigned textbook. Concerning the change of the course number, this course is the second course in the power sequence where the first course is EEN 350 so it is logical to be of higher level.

2. Change in the course number, and course description of EEN 356
***New Description*:**
EEN 553 Power System Analysis (3.0); 3 cr. Optimal dispatch of generation. Synchronous machine transient analysis. Balanced and unbalanced short-circuits, balanced three-phase fault and systematic fault analysis. Symmetrical components and unbalanced faults. Transient stability and numerical solution of the swing equation. Power system control. *Prerequisite:* EEN 452.

***Rationale for Change*:**
Power System Analysis course is considered as a graduate course in power systems in most universities in North America. The current description in the NDU catalog is not accurate; there is some overlap between this course and its pre-requisite. Concerning the change of the course number, in addition of being the third course in the power sequence, the material that should be covered in the new description is relevant to an advanced course in power systems.

3. Change in the co-requisite of ENG 202
New Status:
ENG 202 (Computers and Engineering) has MAT 215 (Linear Algebra I) as a co-requisite

Rationale for change:
Currently, instructors are spending at least two lectures to explain the basic principles of matrices and matrix-operations, which are very essential to ENG202 (these are covered in MAT 215). In addition, there is a remarkable difference in understanding between the students who already attended or are attending simultaneously MAT215 with ENG202, and the students who are seeing matrices for the first time (two lectures on matrices are anyway not enough).
Furthermore, MATLAB has achieved widespread acceptance throughout the engineering community. In most universities, MATLAB is the principal computational tool used throughout the curriculum.

4. Change the description of EEN 344 and EEN 443

Description after the proposed changes:

EEN 344 Communication Systems I (3.0); 3 cr. Mathematical analysis and signal processing used in basic communication systems. Spectral analysis. Signal transmission. Amplitude and angle modulation. Frequency-division multiplexing. FM stereo. Pulse modulation. Time-division multiplexing. Impulse radio. Baseband data transmission. Equalization. Digital band-pass modulation techniques. OFDM. Spread-spectrum techniques. Applications to digital voice, digital television and data communications. *Prerequisite*: EEN 340.

EEN 443 Communication Systems II (3.0); 3 cr. Random signals and noise. Noise in analog communications. Noise in digital communications. Error detection and correction. System and noise calculations. Electrical noise. Noise figure. Cascade connection of two-port networks. Free-space link calculations. Terrestrial mobile radio. Spread-spectrum techniques, CDMA. Turbo codes and Trellis Coded Modulation (TCM). *Prerequisites*: EEN 344 and MAT 344.

Motivation for change:

The communications field is undergoing a lot of changes, being now largely dominated by digital implementations. The suggested changes reflect this and provide an appropriate platform that can accommodate future improvements in the field. As a result, the main suggested change is to split these courses across the lines of complexity rather than that of analog/digital communications. Another change is to reduce the number of prerequisite courses for the EEN 344 course, thus enabling the students to get in touch with this field at an earlier stage in their education. This gives them more time for assimilation.

5. Changes to EEN 327 / EEN 328

Change the pre-requisite to co-requisite of the course EEN 328

New status:

EEN 328 has a co-requisite EEN 327 and a pre-requisite EEN 221 (Logic Design Laboratory).

Rationale for change:

A) **EEN 327** as a **co-requisite**: The basic programming skills needed in this course are covered in programming courses taken previously. In addition, the syntax of the new programming language (HDL) will be presented in parallel during **EEN 327** lectures.

B) Add **EEN 221** as a **pre-requisite**: The basic elements of logic design must be covered before the student can take **EEN 328**. **EEN 328** lab experiments build on **EEN 221** lab experiments.

Change the pre-requisite of the course EEN 327

New status:

EEN 327 has a pre-requisite **EEN 324** (Microprocessor System Design).

Rationale for change:

In **EEN 327**, essential materials of **EEN 324** are needed in project assignment (e.g. designing a microprocessor system in HDL language).

6. Change in the prerequisites of EEN 330

New status:Add EEN 202 (Circuits Analysis II) as a prerequisite to EEN 330. The new prerequisites of EEN 330 become EEN 202, PHS 212, and MAT 335.

Motivation for change:

The last changes in the course description and syllabus of EEN 330 resulted in Sinusoidal Steady-State Analysis of Transmission Lines being covered at the beginning of this course. This new topic requires previous knowledge of material covered in EEN 202, mainly AC Steady-State Analysis and Sinusoidal Steady-State Power Calculations.

Faculty of Engineering
Civil and Environmental Engineering Department
Updates in Pre-requisites/Co-requisites - Effective Fall 2010

Approved by the BOD on April 30, & UC on May 28, 2010

- Updated #1: ENG 201 Introduction to Engineering to be taken during the first year, CEN 202, co-requisite ENG 201.
- Updated #2: CEN 431 Concrete and Pavement Lab (1cr) co-requisite CEN 443
- Updated #3: 200 level courses pre-requisite to CEN 400 level courses

Updated #1: ENG 201 Introduction to Engineering to be taken during the first year.

Rationale: Some students are dragging ENG 201 to the second and third year of study and the course becomes irrelevant in its objectives. A system constraint needs to be implemented to force students to take this course during the first year only. It is suggested to have it as a co-requisite to CEN 202 Statics. This amendment is valid for all students.

Old Status: CEN 202 with no Pre-requisite or co-requisite
New Status: CEN 202 has a co-requisite ENG 201

Updated #2: CEN 431 Concrete and Pavement Design Lab (1cr) co-requisite CEN 443 Transportation Engineering II

Rationale: CEN 431 has been scheduled as a last year laboratory course that summarizes concrete and pavement information. The pavement part is covered in conjunction with CEN 443 and experiments are performed toward the end of the semester once it is covered in class. CEN 443 as a co-requisite will allow students to take the two courses on a senior level before graduation and limit constraints on this lab. This amendment is valid for all students.

Old Status: CEN 431 with Pre-requisite CEN 443
New Status: CEN 431 has a co-requisite CEN 443

Updated #3: 200 level courses pre-requisite to CEN 400 level

Rationale: Students need to successfully complete all 200 level courses in the Core and Major pools in order to be allowed to register in the CEN 400 level courses.
Implementation date: Fall 2011

Old Status: ***Refer to CE System Constraint Sheet***.
New Status: Amendment of the system constraint to have 200 level courses pre-requisite to CEN 400 level.
As a transitional period, the system constraint will be implemented as follows: For the academic year 2010-2011, if students need to register in CEN 400 level courses, they should have successfully completed (or are currently finishing) all 200 level courses in the Core and Major pools.

FACULTY OF ENGINEERING

SYSTEM CONSTRAINTS

B.E. Civil Engineering (Revised May 15, 2009)

Credits Required : 150 - Approved by the BOD on May 4, & UC on May 28, 2010

Remedials

Course No.	Cr.	*Pre-req.	Co-req	Additional Constraints	Course No.	Cr.	*Pre-req.	Co-req	Additional Constraints
ENL 105	5				MAT 113	3			C min
ENL 110	3								

General Education Requirements (27 cr.) [GER from FE list only]

ENL 213	3	See Restriction 1 below			GER	3			
ENL 230	3	See Restriction 2 below			GER	3			
REG	3				GER	3			
GER	3				GER	3			
GER	3								

Core Requirements (45 cr.)

ENG 201	3				MAT 215	3			
ENG 202	3				MAT 224	3	MAT 213		
CHM 211	3				MAT 235	3	MAT 213		
PHS 203	3				MAT 326	3		MAT 224	
CSC 212	3				MEN 201	3	CEN 202		
GEO 201	3				MEN 210	3	PHS 203		
EEN 205	3	MAT 224			MEN 320	3	MEN 210		
MAT 213	3	MAT 113 or Placement							

Major Requirements (58 cr.) [Passing grade C- min]

CEN 202	3			MAT 113 min C	CEN 343	3	Third Year	MAT 326	
CEN 203	3	CEN 202		***	CEN 360	3	MEN 320		
CEN 204	1	CEN 203 or MEN 202			CEN 361	1	CEN 360		
CEN 210	3	CEN 203			CEN 392	3	ENG 201		Junior Standing
CEN 220	3	CEN 203			CEN 430	3	CEN 330		
CEN 221	1	CEN 220			CEN 431	1	CEN 330 & 443		
CEN 250	2			MAT 113 min C	CEN 440	3	CEN 210		
CEN 251	1		CEN 250		CEN 443	3	Fourth Year	CEN 430	
CEN 270	1			MAT 113 min C	CEN 462	3	MEN 320		
CEN 271	1		CEN 270		CEN 463	3	CEN 360		
CEN 311	3	CEN 210			CEN 465	1	CEN 462		
CEN 325	3	CEN 220			CEN 495	3	CEN 496&ENL230		Chairperson's approval, Fourth Year
CEN 330	3	CEN 210							

Technical Electives (12 cr.)

CEN 370	3			Senior Standing	CEN 523	3	CEN 430 & 440		Instructor's Approval
CEN 393	3			Junior Standing	CEN 524	3	CEN 430		Instructor's Approval
CEN 407	3	CEN 210		****	CEN 530	3	CEN 325		
CEN 450	3	CEN 250 & 251			CEN 531	3	CEN 325		
CEN 461	3	CEN 462		or Instructor's Approval	CEN 541	3	CEN 440		
CEN 471	3			Senior Standing	CEN 543	3	Fourth Year	CEN 443	
CEN 493	3			Junior Standing	CEN 544	3	Fourth Year, Instructor's Approval		
CEN 510	3	CEN 407			CEN 560	3	CEN 462		Instructor's Approval
CEN 511	3	CEN 510			CEN 580	3			
CEN 512	3	CEN 510			CEN 581	3	CEN 580		
CEN 513	3	CEN 512			CEN 582	3	CEN 581		
CEN 514	3	CEN 204			CEN 594	3			Senior Standing
CEN 515	3	CEN 407			MAT 339	3			
CEN 516	3	CEN 407			MEN 400	3			
CEN 520	3	CEN 311							
CEN 521	3			Senior Standing					
CEN 522	3	CEN 430 & 440							

Free Electives (5 cr.)

Approved Summer Training (3 cr.)**

CEN 496	3			Senior Standing & **					

NB1: Senior Standing, student should have attended a minimum of 90 cr

NB2: Junior Standing, student should have attended a minimum of 60 cr

NB3: A student is considered as a **Third Year** Standing once he has successfully passed (or currently finishing) all **200 level Core** requirements **AND** all **CEN 200 level Major** requirement courses

NB4: A student is considered as a **Fourth Year** Standing once he has successfully passed all his **CEN 300 level Major** requirement courses

Restriction 1: If 30 credits are completed, student should be automatically disallowed from registration unless ENL 213 is included

Restriction 2: If 60 credits are completed, student should be automatically disallowed from registration unless ENL 230 is included

Restriction 3: The maximum load for summer registration is 9 credit hours of non-engineering courses. This maximum is reached when a student registers for 7 credit hours (6cr eng'g + 1cr lab or 6cr eng'g) of engineering courses excluding CEN 496 (3cr) Approved Summer Training.

Restriction 4: CEN 201 Engineering Mechanics (3 cr) **opened only** to EE and CCE students

*Passing grade of pre-requisite and co-requisite is according to FE passing grade requirement

**Summer session only. No other courses could be added with CEN 496 Approved Summer Training (3cr)

***MEN 202 Mechanics of Material I (3 cr) **not opened** to CE students

**** CEN 407 is equivalent to MEN 302. MEN 302 is opened to Civil Engineering students, pre-requisite for CE students CEN 203

Faculty of Engineering
Mechanical Engineering Department
ME Program Changes - Fall 2010

Approved by the UCC & BOD on April 30, & UC on May 28, 2010

A major upgrade of the ME undergraduate program has been implemented in Fall 2008 and is being applied to ME contract sheets with ID#2008xxxx and beyond. The current proposals are to further improve the program and make it compatible with international standards, especially ABET requirements. The changes are to be applied to ME contract sheets as identified under "Target contract sheets".

- Updated #1: Remove MEN 440, Computer-Aided Design & Manufacturing, 3cr.
- Updated #2: Add MAT 326, Probability and Statistics for Engineers, 3cr, to the ME program as a core course.
- Updated #3: Add MEN 544 to the pool of technical electives.
- Updated #4: Update the pre-requisites/co-requisites of MEN 310 and Course description & pre-requisites of MEN 580.

Updated #1
Remove MEN 440, Computer-Aided Design & Manufacturing, 3cr.

Rationale:

The main objective of the course MEN 440, Computer-Aided Design and Manufacturing, is to introduce the students to the technology of graphical representations as used in mechanical engineering and its closely related topics like computer-aided manufacturing, computer-aided planning, etc… Graphical representations are of paramount importance in mechanical engineering, and to better expose the students to that technology, the department has introduced a sequence of three 1-credit courses in Fall 2008 to cover the topics (CEN 270, Engineering graphics, MEN 270, Computer-Aided Design, and MEN 370 Graphics for Mechanical Engineers). The courses, especially the two latter, emphasize the computer-aided aspects and involve heavy training sessions in the computer center pertaining to the issues of graphics in the mechanical engineering business. As a result, covering the same topics in an advanced course like MEN 440 is not needed anymore. It would be much better if we can delete the course and replace it with technical elective course devoted entirely to the second aspect of MEN 440, namely, the computer-aided manufacturing.

Target Contract Sheets:

ME contract sheets with ID# 2008xxxx and beyond.

Updated #2
Add MAT 326, Probability and Statistics for Engineers, 3cr, to the ME program as a core course

Rationale:

ABET accreditation criterion #3(b) states clearly the need for an engineer "to design and conduct experiments, as well as to analyze and interpret data". Such ability requires not only knowledge related to technology (design) and procedures (conduct) but also skills related to the methods necessary to work with the results in order to generate laws, models, …, and to understand their limitations. Statistical techniques play a major role in such a process and the engineer needs to have the minimum skills required in terms of statistical approaches.

Moreover, many areas of mechanical engineering do involve fluctuating quantities (turbulence phenomena, vibrations, …) for which adequate analysis is required. Such an analysis is most often based on statistical approaches like for example calculating time-averages, correlations factors, and so on. Therefore, statistical techniques are precious tools with which we have to equip our future mechanical engineers.

Target Contract Sheets: ME contract sheets with ID# 2008xxxx and beyond.

Updated #3

Add the following course to the pool of technical electives
MEN 544, Computer-Aided Manufacturing, 3cr

Rationale:
The new course MEN 544 is intended to replace the course MEN 440 removed in proposal#1. It is to be added as a technical elective and not as major course. All other courses are new courses of practical nature that will add a non negligible value to the list of technical electives offered by the department. The main objective is to reflect market needs and faculty expertise.

The course descriptions and requirements are as follows:
MEN 544 Computer-Aided Manufacturing (3.0); 3 cr. Fundamentals of industrial automation; numerical control (NC) systems; part programming; robotics in manufacturing; materials handling and automated storage systems; group technology; automated identification and inspection systems; flexible manufacturing systems. *Prerequisites:* MEN 340, MEN 370.

Target Contract Sheets:
All ME contract sheets.

Updated #4
Update the course description & pre-requisites of the following courses

- **MEN 310, Heat Transfer, 3cr: Add MEN 211 as pre-requisite (keeping the course MEN321 as co-requisite).**
- **MEN 580, Finite Elements Methods, 3cr: Update the course description and replace the existing pre-requisite MEN 202 by MEN 302 and MEN 310.**

Rationale:
Continuous monitoring and upgrade of the content of all MEN courses require regular upgrade of their requirements.

1) **MEN 310**: The topics covered in heat transfer are actually continuation of the energy concepts developed in thermodynamics (MEN 210 & MEN 211). Thermodynamic concepts emphasize states or the description of a systems at given time and location while the heat transfer concepts, along with fluid mechanics (MEN 321), try to describe the processes required to take the system from one state to the next. Many ideas developed in MEN 211 (thermodynamics II) are needed in heat transfer like for instance: description of real gases since ideal concepts (isentropic or adiabatic) are not applicable in heat transfer, combustion processes which are the main applications involving very high temperatures and the resulting radiation issues covered in heat transfer, etc… Therefore, *the department recommends that MEN 211 (Thermodynamics II) be considered as a pre-requisite for MEN 310 (Heat Transfer) while keeping the existing co-requisite of MEN 310, namely MEN 321 (Fluid Mechanics II).*

2) **MEN 580**: Usually finite element analysis is used to tackle problems for which a simple analytic solution is either impossible or very complicated from a mathematical point of view. Such problems are by definition of an advanced type like the ones treated in MEN 302 (Mechanics of Materials II) and not MEN 202 (Mechanics of Materials I), which is a basic level course. Furthermore, conduction heat transfer problems are regularly treated in class and considered as benchmark cases for student assignments. The reason behind that is the similarity in the governing equations mechanics/conduction heat transfer. As a result, *the department recommends that both MEN 302 (Mechanics of Materials II) and MEN 310 (Heat Transfer) be considered as pre-requisites for MEN 580 with the following new course description:*

   MEN 580 Finite Elements Methods (3.0); 3 cr. The concepts and fundamentals of the finite element method with applications to problems in solid mechanics, fluid mechanics, and heat transfer. *Prerequisites:* MEN 302, MEN 310.

Target Contract Sheets: All ME contract sheets.

REG 215 – World Religions

Approved by the BOD on April 26, & UC on May 28, 2010

Rationale

The Mission Statement of Notre Dame University Louaize stresses that this university seeks to provide quality education that fosters excellence in scholarship, lifelong learning, enlightened citizenship, human solidarity, moral integrity, and belief in God. It also stresses that NDU is committed to promoting diversity and aspires to prepare its students to shape a world of truth, justice, love and freedom. The Faculty of Humanities intends to contribute in the promotion of this mission by offering our students the opportunity to explore the multi-cultural world in which we live. The phenomenon of humankind's relationship with God is materialized in religion which is the cultural expression of our worship of the divine. The rich diversity of religions is due directly to human diversity. Our reflections on the issues of religious diversity are directly related to our fundamental freedoms, mutual tolerance, and absolute respect of the other. The freedom of religion is a central tenet of the United Nations Declaration of Human rights signed by Lebanon, and of which Lebanon is co-author and a promoter. The curriculum of the FH will be enriched by a course entitled, *World Religions* and which would help broaden our student's horizons.

Course Description

REG 215 World Religions (3.0); 3cr. This course explores the variety of ways people have articulated their connection with the sacred. Major religious beliefs and traditions are addressed namely, Christianity, Judaism, Islam, Hinduism, Buddhism, Confucianism, and Taoism. Ancient religious cultures such as the Mesopotamian, Persian, and Egyptian are also covered.

Textbooks:

Scriptures of the World's Religions, eds. James Fieser and John Powers. Boston: McGraw-Hill, 1998 (Class would use the 2006 version published in paperback.)

- Anthology of World Scriptures - Robert E. Van Voorst – 5th ed Thomson-Wadsworth 2006 (pbk)

FH - ENL 500 - Remedial Course in English for Graduate Students

Approved by the BOD on April 26, & UC on May 28, 2010

1. **ENL 500** is a remedial course
2. Passing Grade is a **B**
3. Designed specifically for **non-science majors** as the focus is different.

****

Rationale

NDU is a university which uses English as its language of instruction. Undergraduate students who have attended French schools or who are weak in English communication skills are presently offered either an Intensive class (12 credits) or two remedial regular courses (ENL 105 and ENL 110) so as to prepare them to follow their major courses efficiently.

NDU regularly receives applications from prospective graduate school candidates in particular to Computer Science and Math who have a high GPA in their major courses, but who have done their undergraduate courses at a French university. Thus, their files may be rejected due to their inability to perform sufficiently well on the EET or other exam.

Other universities worldwide offer "foreign" graduate students the opportunity to improve their language skills; some allow students to take one graduate course concurrently; others allow the graduate student two semesters to prove that their English is sufficiently improved so as to take advantage of English language instruction.

NDU does not want to lose promising graduate students due to their linguistic difficulties; rather it would like to offer them a course which will aid them to succeed.

Course Description

Prerequisite: Placement by the English Entrance Test/and or permission

ENL 500 English for Scientific Purposes (3.0); 3cr.

This course is designed for graduate students in the sciences with deficiencies in the English language. The course focuses on developing vocabulary and grammar needed for expository writing, critical reading and discipline-specific tasks such as problem-solution sets, data commentary and reviews of research.

Text books: Robert A. Day, **Scientific English: A Guide for Scientists and other Professionals** 2nd Edition: ORYX, Available at Amazon. First published in 1995.

Robert A. Day, **How to Write and Publish a Scientific Paper** 6th edition. Greenwood Press. 2006

These textbooks would be supplemented by other handbooks on English language.

Faculty of Natural & Applied Sciences
Department of Sciences
GEO 101 – Environmental Geology - Course Syllabus

Approved by the BOD on Jan. 27 & UC on May 24, 2010

Course Description

Environmental geology discusses the Earth's structure explaining the major geologic processes like earthquakes and volcanoes and how they influence human lives. It introduces the planet we are living on, its composition, its mineral and water resources and the human impact on these resources. It also covers the geologic aspect of environmental pollution.

Course Objectives

By the end of the course the students should be able to:

- Demonstrate a *basic* knowledge of the mineral and metallic resources, fossil fuels and potable water.
- Understand that the Earth is a dynamic planet that is constantly changing therefore the geologic hazards as Earthquakes, landslides and floods can be better understood once geological data is accurately interpreted, which provides better insights to the solutions of the problems faced, therefore better decision making and humanity safety.
- Integrate knowledge of basic geological information on how the Earth works and environmental concepts on how humans should interact with the geologic environment in order to use properly and safely the Earth's materials.
- Learn how, as individuals, they can be active participants in protecting the planet's resources and attaining a sustainable society.

Course Methodology

The course consists of:

A- The theoretical part subdivided into 4 major categories (listed below in the course's content). Classroom lectures, presentations and documentary DVDs will be adopted. These will be followed by class discussions. The students will be asked to answer a questionnaire after each documentary.

Projects on the major geological hazards and resources degradation in Lebanon will complement this part with emphasis on the possible mitigation measures and solutions that can be implemented. The students will prepare class presentations or participate to a Poster session.

The documents for the course will be available on **Blackboard.**

B- The laboratory part: Demonstration in hand specimens of the minerals collection and the different kinds of rocks.

C- A visit to the NDU "Stone Wing museum". The students will be asked to write reports On the visit

A- Course Content

Chapters	**Title**	**Reference: textbook**
1- Geological Materials		Environmental Geology, Montgomery, Carla
Chap 1	Planet Earth	

Chap 3	Plate tectonics	
Chap 2	Minerals + Rocks	
2-Environmental Hazards:		
Chap 4	Earthquakes.	
Chap 5	Volcanoes	
Chap 8	Mass movement	
3- Resources		
Chap 11	Water as a resource.	
Chap 12	Soil as a resource	
Chap 13	Mineral and rock resources	
Chap 14	Energy resources: fossil fuels	
4- Environmental Degradation		
Chap 17	Water Pollution	
Chap 16	Waste disposal	

B- Laboratory sessions:
- Minerals and rocks demonstration in hand specimens.

C- NDU (Stone Wing museum) visit. The visit to the mineralogical and archaeological museum of the University will complement the laboratory part in mineralogy with examples on the archaeological uses of the minerals in Lebanon.

Course's Evaluation:	2 Quizes	50%
	Final Exam	35%
	Project	10%
	Class Participation	5%

Textbook: Montgomery Carla, 2008, Environmental Geology. Eight's edition, McGraw-Hill.

Reference books:
- Skinner, B., Porter S. 2004. **The Dynamic Earth**, 5'th edition. John Wiley & sons. USA.
- Hamblin, W., Christiansen, E., 2000. **Earth's dynamic systems**. 10'th edition, Prentice Hall.

Faculty of Natural & Applied Sciences
Department of Sciences
GEO 203 – Planet Earth - Course Syllabus

Approved by the BOD on Jan. 27 & UC on May 24, 2010

Course Description

The course provides the students with a better understanding of the basic principles of physical geology introducing the earth's material and the internal and surface processes that acted on the earth through geological times. Geological aspects of Lebanon: age, tectonism, karst topography, resources, *especially water resources* and geological hazards will be discussed as application to the theoretical part. The laboratory sessions will cover minerals and rocks identification.

Course Objectives

Upon achieving successfully the course, the students should**:**

- Demonstrate a basic knowledge of the tectonic movement on the planet with an understanding of the present status of the continental and oceanic plates.
- Describe the basic principles of the earth geologic processes as volcanoes, earthquakes, rivers, coastlines and groundwater emphasizing on how they led to the birth and present structure of the Earth and how they modify the Earth's surface.
- Be able to identify in hand specimens the rock forming minerals and the igneous, sedimentary and metamorphic rocks.
- Describe the major geological features of Lebanon, therefore the processes that shaped the Lebanon of today with examples from Lebanese localities.
- *Emphasize geological resources, especially water resources.*
- Be able to identify in the field the major rock formations and structures in the Lebanese geology.

Course Methodology

The course consists of:

A- The theoretical part detailed in the course content below- Classroom lectures, power point presentations and documentary DVDs will be adopted. Most of the topics will be elaborated upon by examples from Lebanon. These will be followed by class discussions. Questionnaires will be distributed after each documentary.

B- The laboratory part: Hand specimens of the minerals collection and the different kinds of rocks will be displayed in the laboratory sessions. The students are responsible of identifying the different kinds of minerals and rocks

C- A visit to the NDU "Stone Wing museum" will be organized. It consists of a presentation then a tour to get introduced to the fossils and minerals collection displayed in the Museum

D- A field trip will be organised to complement the theoretical part and to show some important geological landscapes in Lebanon. The students will present a field report of the trip.

A- Course Content

Chapter, Textbook: Earth, Marshak	**Title**	**Application**
Chap 3	Planet Earth, the tectonic system,	Middle East tectonic setting
Chap 12	Earth's age.	Fish fossils in Hakel, Lebanese ambers

Chap 5	Minerals.	Laboratory collection Museum collection
Chap 6, 7 & 8	Rocks: igneous, sedimentary, metamorphic.	Laboratory collection Rock deposits of Lebanon
Chap 7 (part of sedimentary rocks)	Weathering	Karstified Rocks in Faitroun, Jisr Kferdebian, Disappearing stream: Balou' Baarta
Chap 9	Volcanoes	Lebanon basalts
Chap 10	Earthquakes	Earthquakes in Lebanon, seismic station Bhannes.
Chap 19	Groundwater	Application: Jeita Grotto
Chap 18	Coastlines	Raouche

B- Laboratory sessions:

-Session 1- Minerals: Hand specimens examination of the major rock forming minerals with emphasis on their physical properties.

-Session 2- Different kinds of Rocks: Igneous, sedimentary and metamorphic.

C- NDU (Stone Wing museum) visit. The visit to the mineralogical and archaeological museum of the University will complement the laboratory part in mineralogy with examples on the archaeological uses of the minerals in Lebanon.

D- Field trip:

Proposed destinations:

- Jeita grotto
- Hakel Museums.
- Seismic station Bhannes

Course's Evaluation:	2 Quizzes	50%
	Final Exam	35%
	Project	10%
	Class Participation	5%

Textbooks:

-Stephen Marshak, 2008, Earth: Portrait of a planet, 3'rd edition. Norton. England.

Reference books:

- **Exercises in physical geology, 1992,** Hamblin K., Joward, J. Prentice Hall, N.Y.

-Simon & Schuster's Guide to Rocks & Minerals, 1978, Prinz et al, editors**,** The American museum of natural history. Sixth edition. Fireside book.

-Fossils of Lebanon, Arslan, S., Geze, R. Abdul-Nour, H. 1997. Fossils of Lebanon, Visual Guide. Lebanese University Publications Department. Beirut.

-Lebanese Amber, Milki Raif, Poinar George, 2002, Lebanese Amber, the oldest insect ecosystem in fossilized resin, Technical publications, Beirut. 104 pages. Arabic version.

- **Earthquake Hazard in Lebanon**, 2004, Elnashai, A., El-Khoury, R. Imperial College Press. 171 pages.

Faculty of Natural & Applied Sciences
Department of Sciences
AST 101 – Introduction to the Solar System and Exoplanets

Approved by the BOD on May 11, & UC on May 28, 2010

Course Name & Description: (NDU Catalogue)

AST 101 – Introduction to the Solar System and Exoplanets (3.0); 3cr. The course gives an up-todate description of the solar system: the eight planets, Kuiper Belt Objects, asteroids and comets. The latest discoveries in planetary science will be seamlessly woven into the course. The course also covers the search for exoplanets and what they tell us about planetary systems in the Universe. It also discusses the topic of life in the Universe.

Detailed Course Description & Coverage:

This course is open to Freshman students. It gives an introduction to the solar system and describes the searches for exoplanets and life in the Universe. It starts with a planetary overview then moves on to the study of the individual planets in the solar system (except Earth) focusing on the latest discoveries about Mercury, Venus, Mars (in particular the story of the search for water), Jupiter and its Galilean moons, Saturn and its moons Titan & Enceladus, Neptune, Uranus, Kuiper Belt Objects and dwarf planets, asteroid, and comets. The course then will discuss the story of the detection of exoplanets, 400+ so far, and the search for life and extraterrestrial intelligence. In particular the course will cover the following topics:

1. Tools of Discovery: Telescopes, light and spacecrafts.
2. Planetary Overview: Jovian vs. Terrestrial planets.
3. Earth-Moon-Sun System: Phases of the Moon, tides on Earth, Solar and Lunar eclipses, surface features & history of the Moon.
4. Mercury: Surface feature, motions.
5. Venus: Surface features, atmosphere, similarities/dissimilarities with Earth.
6. Mars: Surface features, atmosphere, evidence for water, similarities/dissimilarities with Earth.
7. Jupiter: Composition, structure, moons (in particular the Galilean satellites Io, Europa, Ganymede, Callisto)
8. Saturn: Composition, structure, rings, moons (in particular Titan, Enceladus)
9. Uranus and Neptune: Composition, structure, motions.
10. Comets and Kuiper Belt Objects: Pluto and other dwarf planets, short and long-period comets.
11. Asteroids: the asteroid belt, and Near Earth Objects
12. Exoplanets and other planetary systems: searches and discoveries, hot Jupiters, Earthlikes.
13. Search for Life in the Universe: Conditions for life, SETI, prospects for life in and outside the solar system.

Teaching Methodology:

This course relies entirely on class lectures by the instructor. The instructor will use powerpoint slides, which will be posted on Blackboard later. The instructor will employ a conversational approach. The emphasis is on explaining processes to students, how the Sun shines, for example, and not on rattling off a bunch of scientific facts. To achieve this goal, the instructor will be posing questions to the class every 10 minutes or so, after explaining the concepts, and will be querying the class for instant responses using a system of clickers to keep statistics, and then explain why some responses are wrong. The method can be summarized in just one statement: the student will learn a story not memorize facts.

Learning Goals:

After finishing the course, the following goals should have been achieved:

1. Tell the difference between Jovian and Terrestrial planets.
2. Give a clear definition of a planet and argue why Pluto is no longer considered a planet.
3. Explain the peculiarities of the individual planets.
4. Explain the similarities and dissimilarities between Earth, Venus, and Mars.
5. Explain the importance of studying Io, Europa, Titan, and Enceladus.
6. Understand what kind of life could be discovered in the Solar system and where.
7. Explain what exoplanets are and give an overview of the search techniques and the importance of the discoveries.
8. Understand news report about discoveries of extra-solar planets.
9. Explain the conditions needed for life and the rationale behind search for life in the Universe.

Textbook:

"In Quest of the Universe" 5th edition, 2007, Karl F. Kuhn & Theo Koupelis

The textbook comes with a CD containing animations, graphics and a test bank that allows you to train at home and review chapters covered in class. I will also make use of astronomical software in class to aid our explorations. They will replace the good old sky in some aspects, and they will also provide a different perspective on the topics we will discover. Another important tool is Blackboard. Blackboard provides an environment for online courses. It will provide discussion forums, announcements for the course, a portal to astronomy resources on the Internet... You should check with the computer center to get a username and password for these services. The University will provide you with an email address linked to your account. Blackboard is the place where I will post material related to the course.

Evaluation:

Exams: Best 3 of 4 ½-hour tests, count for 65%

Final Exam: 35%

All exams will take place in the BlackBoard Room, Computer Center.

Make Up Exams: No make up exams will be done under normal circumstances. Absence to an exam, under exceptional circumstances, might be excused and the percentage distributed on the remaining tests.

Attendance: Attendance will be taken every session during the semester, and 3 to 4 times during the observing nights. Only one or two (depending on schedule) of the 6 to 8 checks of the observing nights would go towards implementation of the University Attendance Policy. (see course page on Blackboard for the text of the University policy on attendance.) You are responsible for whatever material covered in class during your absence.

Possible References:

"Astronomy Today", 4th ed., 2002, E. Chaisson & S. McMillan, Prentice-Hall
"The Cosmos", 3rd ed., 2007, J. M. Pasachoff & A. V. Filippenko, Thomson/Brooks/Cole
"Astronomy", 5th ed., 2007, M. A. Seeds, Thomson/Brooks/Cole

Other Course Information:

Please check the course page (under "Course Information") on Blackboard for the relevant University policies, resources, etc.

Course Schedule:

Week Ch. #Lec Topics Notes

Introduction - Elements of Telescopes
Planetology - Sun-Earth-Moon System History of the Moon - Surface Features
Mercury
Venus - **Exam I**
Mars - Jupiter
Europa – Callisto - Ganymede
Saturn and its rings - Titan - **Exam II**
Titan - Enceladus
Uranus - Neptune
Comets - Kuiper Belt Objects
Pluto. Dwarf Planets - **Exam III**
Asteroids - Near Earth Objects - Meteors.
Suppl. 3 Exoplanets
Supplement
Search for life in the Universe - **Exam IV**
Last Day to Withdraw
SETI – **Final Exam**

Modification of the Freshman Science Curriculum

Approved by the BOD on April 28, & UC on May 28, 2010

The current Freshman Science curriculum is very weak and without structure. All it does is that it satisfies the Ministry of Higher Education (MHE) requirements. It is true that advisors try to direct students to take elective courses that would help the students in their prospective majors, but still the program as it is now at NDU is very weak. The student is faced with 15 credits of free electives on top of freedom choice in math, science, humanities, and social sciences. Too much freedom can be misleading, especially with young students fresh out of high school. A more structured and academically sound curriculum is needed. Informal chats with previous Freshman Science advisors showed their dissatisfaction with the current curriculum.

Faced with these concerns I propose a modified curriculum for the Freshman Science program. The proposal still satisfies current MHE requirements while at the same time introduces structure to an otherwise very loose program. The proposed curriculum is identical to the current one except that it places more requirements in math and science courses. The major feature of the modified curriculum is the requirement that Freshman Science students take 6 credits of Mathematics (specifically MAT 111 & MAT 112) and 9 credits of Natural Sciences.

Comparing with other universities in Lebanon, such as the University of Balamand (UoB), the Lebanese American University (LAU), and the American University of Beirut (AUB), our Freshman program, even after modification, still offers students with a wide choice. LAU and AUB, for instance, require specific Humanities and Social sciences courses. The common feature among the three universities listed above is that all require 6 credits of calculus. In terms of freedom of choice in courses, our program is closest to that of UoB. I attach copies of the Freshman Science programs at these three universities as they appeared on their websites in mid-January 2010.

Current Freshman Science Curriculum:

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

The Freshman Program includes courses from the following areas: (Arts and Science)

Humanities and Social Sciences	- 9 crs.
(a minimum of 3crs. in each area)	
Natural Sciences and Mathematics	- 6 crs.
(a minimum of 3 crs. in Natural Sciences)	
(the above satisfy MHE requirements)	
Free Electives	-15crs.

Proposed Modifications to the Freshman Science Curriculum:

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

The Freshman Science Program includes courses from the following areas:

Humanities and Social Sciences	- 9 crs.
(a minimum of 3crs. in each area)	
Mathematics	**- 6 crs.**
(MAT 111 & MAT 112)	
Natural Sciences*	**- 9 crs**
Free Electives	**- 6 crs**

**Suggestions: Students planning to go into computer science, engineering, mathematics, or physics may choose to take PHS 101, 102, and CHM 101. Students planning to go into Biology, Chemistry, Environmental Sciences, Medical Lab Technology, Nutrition, or Nursing may choose to take BIO 101, CHM 101, and CHM 102.*

All rules and regulations governing the current Freshman program apply to the proposed modified one.

Dept. of Mathematics & Statistics: Changes to the Math Curricula

Approved by the BOD on May 4 &5, & UC on May 28, 2010

Following are the changes in the math curricula, for the undergraduate and graduate programs, prepared by the Department of Mathematics and Statistics.
The changes include:

1. An updating of the contract sheet for the **Bachelor of Science in Mathematics**.
2. An updating of the contract sheet for the **Master of Science in Mathematics** (replacing the current two tracks by only one track)
3. Establishing a new **Master of Science program in "Financial Mathematics**"
4. A request for a **3-credit reduction in the number of GER courses for the Actuarial Science program**

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Subject: The Contract Sheet for the Bachelor of Science in Mathematics

The Department Curriculum Committee of the Department of Mathematics and Statistics, and in its meeting on Wednesday 10th March 2010, decided to adopt a more specific contract sheet, instead of the current one, for the Bachelor of Science degree in Mathematics (pure mathematics), by specifying the math courses to be taken in some of the credits allocated to "Elective (major requirement)" that appear in the current contract sheet.

The following courses have to be specifically mentioned in place of some "Elective (major requirement)" courses in the current contract sheet:

1. MAT 339 (Numerical Analysis)
2. MAT 421 (Rings and Fields)
3. MAT 430 (Topology II)
4. STA 315 (Mathematical Statistics)

This would leave **four** Elective (major requirements) in the contract sheet, giving the freedom to select 12 credits from a pool of senior level math courses.

The committee also decided to re-install the old title of the course MAT 413 (currently Introduction to Real Analysis I) to become "Advanced Calculus I", and the title of the course MAT 423 (currently Introduction to Real Analysis II) to become "Advanced Calculus II", as they appear in the catalogue 2006 - 07.
The program of study for the Bachelor of Science in Mathematics (pure mathematics) thus becomes:

- **Core Requirements (22 credits)**
    1. CSC 212 (Program Design and Data Abstraction I)
    2. CSC 213 (Program Design and Data Abstraction II)
    3. MAT 211 (Discrete Mathematics)
    4. MAT 213 (Calculus III)
    5. MAT 215 (Linear Algebra I)
    6. MAT 220 (Mathematical Software Packages)
    7. MAT 224 (Calculus IV)
    8. MAT 235 (Ordinary Differential Equations)
- **Major Requirements (required courses) (30 credits)**
    1. MAT 325 (Elements of Probability)
    2. MAT 333 (Complex Variables)
    3. MAT 339 (Numerical Analysis)
    4. MAT 411 (Group Theory)
    5. MAT 412 (Topology I)
    6. MAT 413 (Advanced Calculus I)
    7. MAT 421 (Rings and Fields)
    8. MAT 423 (Advanced Calculus II)
    9. MAT 430 (Topology II)
    10. STA 315 (Mathematical Statistics)

- **Major Requirements (electives) (12 credits from this pool)**
    1. MAT 305 (Number Theory)
    2. MAT 312 (Graph Theory)
    3. MAT 335 (Partial Differential Equations)
    4. MAT 400 (Elementary Differential Geometry)
    5. MAT 418 (Numerical Linear Algebra)
    6. MAT 431 (Vector Spaces and Modules)
    7. MAT 460 (Selected Topics in Mathematics)
    8. STA 370 (Stochastic Processes)
    9. CSC 311 (Theory of Computation)
    10. CSC 313 (Data Structures Using C++)
    11. CSC 325 (Analysis of Algorithms)

Bachelor of Science in Mathematics

Suggested Program (103 credits)

Fall Semester I (15 credits)

----- ----- GER	(3 cr.)
MAT 211 Discrete Mathematics	(3 cr.)
MAT 213 Calculus III	(3 cr.)
MAT 215 Linear Algebra I	(3 cr.)
ENL 213 Sophomore English Rhetoric (GER)	(3 cr.)

Spring Semester I (15 dredits)

CSC 212 Program Design and Data Abstraction	(3 cr.)
MAT 224 Calculus IV	(3 cr.)
MAT 235 Ordinary Differential Equations	(3 cr.)
----- ----- GER	(3 cr.)
----- ----- GER	(3 cr.)

Summer Session I (7 credits)

----- ----- GER	(3 cr.)
ARB 211/ or 231 GER	(3 cr.)
MAT 220 Introduction to Mathematical Software Packages	(1 cr.)

Fall Semester II (15 credits)

CSC 213 Program Design and Data Abstraction II	(3 cr.)
MAT 325 Elements of Probability	(3 cr.)
MAT 339 Numerical Analysis	(3 cr.)
MAT 412 Topology I	(3 cr.)
REG 212/ or 213 GER	(3 cr.)

Spring Semester II (15 credits)

STA 315 Mathematical Statistics	(3 cr.)
MAT 333 Complex Variables	(3 cr.)
MAT 430 Topology II	(3 cr.)
----- ----- Elective (major requirement)	(3 cr.)
----- ----- GER	(3 cr.)

Summer Session II (6 credits)

----- ----- Elective (major requirement)	(3 cr.)
----- ----- Elective (major requirement)	(3 cr.)

Fall Semester III (15 credits)

MAT 411 Group Theory	(3 cr.)
MAT 413 Advanced Calculus I	(3 cr.)
----- ----- Elective (major requirement)	(3 cr.)

----- ----- Free Elective (3 cr.)
----- ----- GER (3 cr.)

Spring Semester III (15 credits)
MAT 421 Rings and Fields (3 cr.)
MAT 423 Advanced Calculus II (3 cr.)
----- ----- Free Elective (3 cr.)
----- ----- GER (3 cr.)
----- ----- GER (3 cr.)

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Subject: The Contract Sheet for the Master of Science in Mathematics

The Department Curriculum Committee of the Department of Mathematics and Statistics, and in its meeting on Wednesday 10th March 2010, decided to abolish the two tracks for the Master of Science in Mathematics, the "pure mathematics" track and the "applied mathematics" track, and replace them by just one track (without further elaboration on the title of the track).
The Master of Science in Mathematics would thus have the following program (for 33 credits):

- **Core Requirements (18 credits)**
  1. MAT 621 (Algebra I)
  2. MAT 623 (Real Analysis)
  3. MAT 625 (General Topology)
  4. MAT 634 (Complex Analysis)
  5. MAT 641 (Theory of O.D.E.)
  6. MAT 664 (Functional Analysis)

- **Elective Requirements (9 credits from this pool)**
  1. MAT 632 (Algebra II)
  2. MAT 635 (Harmonic Analysis and Potential Theory)
  3. MAT 636 (Algebraic Topology)
  4. MAT 642 (Theory of Partial Differential Equations)
  5. MAT 645 (Theory of Integral Equations)
  6. MAT 655 (Field Theory)
  7. MAT 657 (Commutative Algebra)
  8. MAT 659 Category Theory and Homological Algebra)
  9. MAT 667 (Numerical Analysis I)
  10. MAT 668 (Numerical Analysis II)
  11. MAT 671 (Differential Geometry)
  12. MAT 673 (Differential Topology)
  13. MAT 683 (Directed Reading)

- **Options (6 credits)**
  1. Thesis Option: consisting of the 6 credits MAT 691 (Master Thesis I) and MAT 692 (Master Thesis II).
  2. Course Work Option: consisting of 6 credits from the pool of courses not taken as part of the above mentioned 27 credits (core and elective requirements).

The "Applied Mathematics Emphasis" mentioned in the catalog should be completely deleted, while the "Pure Mathematics Emphasis" title should be replaced by "Master in Mathematics".

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Subject: **Creating a Master of Science degree in Financial Mathematics**

After consultation with the Faculty Graduate Committee of the FNAS, the Curriculum Committee of the Department of Mathematics and Statistics, and in its meeting on Wednesday 10th March 2010, decided to establish a new degree at the Master of Science level, as follows:

Title

Master of Science in **Financial Mathematics (33 credits).**

Objective and Rationale

The aim of a graduate program in Financial Mathematics is to create an applied degree in mathematics that serves two purposes:

- First, this would be a degree in a currently very active and very recent domain in applied mathematics, that is enjoying world-wide academic success in various math departments around the world, as being a pride of mathematics being applied in the real world of the financial markets. As such, and given that a graduate program of this kind does not really exist in any math department in the country, we would be the first to introduce such a mathematics program (like we did in our Actuarial Science program) that we think will be very successful both for the students and in the financial market.
- Second, this program would complement, and is closely related to, the department's applied undergraduate degree in Actuarial Science and Insurance. As such, we think that by establishing such a graduate degree in financial mathematics, we would be complementing our undergraduate program in actuarial science, and we would be creating a very good and attractive option for our students in **mathematics, actuarial science, engineering and business**, to pursue real opportunities and careers in the financial market.

Program of Study

- **Core Requirements (24 credits):**
    1. STA 670 (Measure and Probability)
    2. STA 664 (Methods of Statistical Inference)
    3. STA 663 (Time Series Analysis)
    4. FMA 640 (Advanced Financial Mathematics)
    5. FMA 645 (Computational Financial Mathematics)
    6. FMA 650 (Stochastic Calculus)
    7. FMA 665 (Risk Theory)
    8. FMA 670 (Optimization Methods)

- **Elective Requirements (9 credits)**
    1. BAF 602 (Managerial Finance)
    2. BAF 610 (Derivatives)
    3. BAF 606 (Asset Pricing)
    4. FMA 675 (Discrete-Time Financial Modelling)
    5. FMA 677 (Continuous-Time Financial Modelling)
    6. FMA 683 (Directed Reading)
    7. FMA 685 (Selected Topics in Financial Mathematics)
    8. FMA 691 (Master Thesis I)
    9. FMA 692 (Master Thesis II)

For **course work option**, the student would have to take the 24 core credit requirements plus 9 credits chosen from the elective requirements excluding FMA 691 (Master Thesis I) and FMA 692 (Master Thesis II).
For **thesis work option**, the student would have to take the 24 core credit requirements plus 9 credits from the elective requirements including both FMA 691 (Master Thesis I) and FMA 692 (Master Thesis II).

Descriptions for New Courses

STA 670 (Measure and Probability; 3 credits): The course introduces the student to the basics of measure theory, Lebesgue integration, probability spaces, random variables, sequences of random variables, almost sure convergence, weak convergence, conditioning on a sigma-field, martingales and martingale inequalities, and limiting distributions of random variables.

FMA 640 (Advanced Financial Mathematics; 3 credits): One-period models, multi period models, risk-neutral pricing of derivative securities, Brownian motion, Ito's formula and SDE's, asset models, arbitrage and hedging, interest rate models, actuarial applications. Prerequisite: STA 670.
FMA 645 (Computational Financial Mathematics; 3 credits): Symbolic and numerical solutions of ODE's, solving Black-Scholes PDE symbolically, generalized Black-Scholes formulas, implied volatility, obstacle problems, steady state obstacle problems, fast numerical solutions of obstacle problems for Dupire PDE, Optimal portfolio rules, optimal portfolio hedging under general asset price dynamics. Prerequisite: FMA 640.
FMA 650 (Stochastic Calculus; 3 credits): Review of probability and random variables, conditional expectation, martingales in discrete time, stopping times, Optional stopping time theorem, stochastic processes in continuous time, Brownian motion, Ito stochastic integral, stochastic differential and Ito formula, stochastic differential equations (SDE's). Prerequisite: STA 670.

FMA 665 (Risk Theory; 3 credits): Convolutions, risk models, martingales, point processes, fixed-time ruin probability, finite- and infinite-time ruin probabilities, discrete risk models. Prerequisite: STA 670.
FMA 670 (Optimization Methods; 3 credits): General optimization problems, compactness, convexity, convex hulls, probability distribution spaces, moment spaces, linear programs, integral optimization, moment problems by dual method, loaded premium problems, ruin problems. Prerequisite: STA 670
FMA 675 (Discrete-Time Financial Modelling; 3 credits): This course introduces the most common financial contracts that are traded on exchanges between the financial institutions and their clients. It discusses Arbitrage pricing within the framework on one period model; Valuation and hedging of European and American options; The Cox-Ross-Rubinstein Model; Arbitrage free discrete time models of spot and futures markets; Fundamental Theorems of Asset Pricing for a finite model of security market. Prerequisite: STA 670, FMA 640.
FMA 677 (Continuous-Time Financial Modelling; 3 credits): This course discusses the continuous time modelling under deterministic interest rates. Black-Scholes model and its variants; Continuously rebalanced portfolio and the existence and uniqueness of a martingale probability measure; Study of volatility: historical, implied, risk-neutral marginal distributions and local volatility models; Call and put options; rational exercise time; early exercise premium and optimal exercise boundaries; Cross currency derivatives; currency forward contracts and options and options on a foreign stock. Prerequisite: STA 670, FMA 640.
FMA 683 (Directed Reading; 3 credits): A topic of interest in financial mathematics will be studied under the supervision of a faculty member – Evaluated as tutorial.
FMA 685 (Selected Topics in Financial Mathematics; 3 credits): The content of this course is to be arranged by the faculty member in charge of giving it. Prerequisite: FMA 640.
FMA 691 (Master Thesis I; 3 credits): The research for the master thesis must demonstrate the student's proficiency in financial mathematics. Prerequisite: Advisor consent.
FMA 692 (Master Thesis II; 3 credits): A continuation of FMA 691. Prerequisite: MAT 691.

Textbooks for New Courses in Financial Mathematics

STA 670 (Measure & Probability)
"Probability & Measure Theory"
By Robert Ash & Catherine Doleans-Dade
Published by Academic Press (1999)

FMA 640 (Advanced Financial Mathematics)
"Introduction to the Mathematics of Finance"
By R.J. Williams
Published by the American Mathematical Society (2006)

FMA 645 (Computational Financial Mathematics)
"Computational Finance: Numerical Methods for Pricing Financial Instruments"
By George Levy
Published by Butterworth-Heinmann (2004)

FMA 650 (Stochastic Calculus)
"Brownian Motion & Stochastic Calculus"
By Ioannis Karatzas & Steven Shreve Published by Springer-Verlag (1991)

FMA 665 (Risk Theory)
"Practical Risk Theory for Actuaries"
By C.D. Daykin & T. Pentikainen
Published by Chapman & Hall (1993)

FMA 670 (Optimization Methods)
"Optimization Methods in Finance"

By Gerard Cornuejols
Published by Cambridge University Press (2007)
FMA 675 & FMA 677 (Discrete & Continuous-Time Financial Modeling)
"Essentials of Stochastic Finance. Facts, Models & Theory"
By Albert Shiryaev & N. Kruzhilin
Published by World Scientific (1999)

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Subject: **A Request for a 3-Credit Reduction in the GER Requirements for the Bachelor of Science in Actuarial Science and Insurance**

The Department Curriculum Committee of the Department of Mathematics and Statistics, and in its meeting on Wednesday 10th March 2010, decided to request a reduction in the GER credit requirements for the undergraduate degree in Actuarial Science and Insurance.

Rationale
Due to the professional nature of the Actuarial Science degree and its need to provide its students with a wide range of courses from multiple disciplines, the DCC strongly recommends that the Actuarial Science program be classified as a professional program and thus limit its GER requirements to 27 credit hours instead of the current 30.
In your assessment, please take into consideration that the Actuarial Science program in the mathematics and statistics department prepares students to pass the preliminary international actuarial examinations under the SOA (Society of Actuaries) and IOA (Institute of Actuaries). Moreover, the following constraints should be taken into consideration:

1. Employers of actuarial graduates normally expect students to have passed a minimum of two professional actuarial exams before or soon after they graduate. To be able to properly prepare the students for these exams, the program as it stands needs to add at least one financial mathematics course to its core requirements. This won't be possible without giving up one GER course.
2. The actuarial program was accorded VEE credits on three of the preliminary exams from SOA. The above exemptions help our graduates minimize the time it takes to achieve actuarial designation. The VEE credits imposed on our program a strain of 24 credit hours from the core and major requirements.
3. All exit interviews conducted on senior, graduating and alumni students stressed the importance of passing exams before graduation. They specifically requested that GER courses be replaced with courses that help them in passing exams and not the contrary.
4. Consultation with professionals (actuaries) confirmed that the program as it stands now offers the best of what is possible with the 112 credits. Nevertheless, they expressed clear need to introduce more courses in finance and computer based modelling, the thing that would be impossible to achieve if the GER credits remain as they are now.

FNAS – Dept. of Computer Science

Course title: GIS 211 - Introduction to Geographical Information System
Purpose: To introduce an existing course to the **pool of GER courses**

Approved by the BOD on May 5, & UC on May 24, 2010

Rational

Geographic Information Science has been growing at an extraordinary rate and there is a strong demand for people who are trained in GIS. The main goal for proposing GIS 211 (Principles of GIS) as a GER course is because this course introduces students from different backgrounds to the field of Geographic Information Science (GIS) and provides them with the capacity to apply GIS in their area of knowledge.

In particular the knowledge of GIS is very useful for:

- Efficient management, thorough policy analysis and cost-effective decision making.
- Powerful planning and maintenance of any business or engineering project.
- Mapping, editing and geo-processing data related to many social, political, defense and environmental studies.

Course Description

This course introduces GIS (Geographic Information System), its importance, its constitution (architecture) as well as its different domains of utilization. It describes as well the related technologies to GIS, GIS components (hardware, software used), GIS in organizations, steps of GIS analysis, careers in GIS, etc. It introduces also some Remote sensing and GPS basics. The course also describes attribute and spatial data types as well as the different cartographic models (raster, vector), conversion of GIS models, GIS terminology, GIS vector functions/operations, data representation and integration. Additionally, Students in this course will handle geographically referenced layers, satellite imageries and GPS data through Seven Lab sessions and filed trip.

Student Learning Outcomes

Upon successful completion of this course, and as a result of the activities and study in this course, the students should be able to accomplish the following:

1. To give an insight into Geographical information system
2. Learn about Satellite imageries for earth observation
3. Learn about the Global positioning systems (GPS)
4. To have an idea on the domain of application of GIS and how students can benefit from these technologies in his/her major
5. Be able to display spatial and tabular data
6. Be able to perform simple function and analysis
7. Establish a map layout
8. Helps students in geo-thinking when resolving a given problematic

Teaching Methodology and Techniques

Classroom lectures, discussion and demonstration of GIS thematic data and diverse applications done in Lebanon and worldwide. Computer presentation, overheads, whiteboard and different illustration materials are provided.

This course is basically lecture based, where most of the topics will be tackled from a general point of view and comprehensively. Classroom lectures, discussion and demonstration of GIS thematic data and diverse applications done in Lebanon and worldwide. However, in order to give the students an

applied feeling of this field, seven GIS lab sessions are added, where students can work with the assistance of their instructor, on several defined exercises.
Additionally students are required to do some research on specific topics related to their majors, and give presentations that summarize their findings.

Note that, even though the course contains some lab sessions, it is not the objective of the course to teach the students how to fully operate a GIS software package. Students interested in such packages can take more advanced GIS courses (Minor GIS program)

Required Text Book
The main textbook for this course:

- *"Geographic information systems and science"*, 2nd Edition (2005), Wiley, ISBN: 047087001X

Additional reference books are listed next:

- *"Desktop GIS: Mapping the planet with open source tools"*, 2008, Pragmatic Bookshelf, ISBN: 1934356069
- *"GIS and spatial analysis for social sciences: Coding, Mapping, and Modeling"*, 2008, Routledge, ISBN: 0415989620
- *"The KML Handbook: Geographic visualization for the web"*, Addison-Wesley, ISBN: 0321525590
- *"Encyclopedia of GIS"*, 2008, Springer, ISBN: 9780387359731

Related Journals:
- ArcUser
- ArcWatch
- GIM
- Geomatica

Course Schedule
The course will articulate on 5 major axis and Introduction, Tools and techniques, Remote sensing, GPS, and Applications

Date	Day	%	Time	Important Dates	Assignment
Session 1	T				**Part1 Introduction to GIS** Definitions and History
Session 2	Th				**Part 1 Introduction to GIS. (continue)** Advantages , drawbacks, domain of applications
Session 3	T				**Part 1 Introduction to GIS. (continue)** Related technologies
Session 4	Th				**Part 1 Introduction to GIS. (continue)** Applications, Careers and Industries
Session 5	T				**Part 1 Introduction to GIS. (continue)** Applications, Careers and Industries
Session 6	Th				**Part 2 Tools & techniques.** GIS Functions
Session 7	T				**Part 2 Tools & tech. (continue)** Geographical data types
Session 8	Th	**7.5%**		**Term paper 1 due date**	**Term paper Presentation**
Session 9	T				**Part 2 Tools & tech. (continue)** Data precision, error & uncertainty

Session 10	Th				**Part 2 Tools & tech. (continue)** Analysis and mapping
Session 11	T				**Part 2 Tools & tech. (continue**) Tools and software
Session 12	Th	**20%**		**Exam 1**	
Session 13	T			**Lab1**	**Part 2 Tools & tech. (continue**) Introduction to ArcGIS (open map documents, work with map layers, zoom, pan, overview)
Session 14	Th				**Chapter 4 Introduction to ArcGIS 9.x**
Session 15	T			**Lab2**	**Part 2 Tools & tech. (continue**) Introduction to ArcGIS (Identify features, Select Features, work with feature attributes, label features))
Session 16	Th			**Lab3**	**Part 2 Tools & tech. (continue**) Map Design (create choropleth maps, classifying and symbology, defining-drawing map elements)
Session 17	T	**7.5%**		**Term paper 2 due date**	**Presentation Term paper 2**
Session 18	Th				**Part 3 Introduction to Remote Sensing** *Definition, History and Concept*
Session 19	T				**Part 3 Introduction to Remote Sensing (continue**) Functionality and operational systems
Session 20	Th	25%		**Exam 2**	
Session 21	T			**Lab 4**	**Part 3 Introduction to Remote Sensing (continue**) Exploring different satellite imageries (Landsat, Spot, Ikonos)
Session 22	Th				**Part 4 Introduction to Global positioning System (GPS)** Concept and operating system
Session 23	T			**Outdoor trip**	**Part 4 Introduction to Global positioning System (GPS) (continue**) *Students will make a tour around the campus with handy GPS to acquire data and take photos*
Session 24	Th			**Lab 5**	**Part 4 Introduction to Global positioning System (GPS) (continue**) *Using GPS data and field photos in a GIS form*
Session 25	T				**Part 5 Applications (continue**) *Water resources (case study Lebanon)*
Session 26	Th				**Part 5 Applications (continue**) *Natural Hazard (Mass movements, EQ) Case studies from Lebanon*
Session 27	T				**Part 5 Applications (continue**) *Natural Hazard (Floods, Forest fires) Case studies from Lebanon*
Session 28	Th			**Lab 6**	**Part 5 Applications (continue**) *Electricity and power*
Session 29	T			**Lab 7**	**Part 5 Applications (continue**) *Business(sitting a businesslocation)*
Session 30	Th			**Lab 8**	**Part 5 Applications (continue**) *GIS through Media and furcating*

CSC 202 Computers for Visual Arts Syllabus – (3.0); 3 cr.

Approved by the BOD on May 5, and UC on May 28, 2010

1 Course Description: This course introduces students to the state-of-the-art software packages for visual arts.

2 Student Learning Outcomes

Upon successful completion of this course, and as a result of the activities and study in this course, the students should be able to accomplish the following:

- To develop visualization, conceptualization, and communication skills.
- To know how to navigate through Adobe Photoshop and Adobe After Effects effectively and learn to make use of the two programs to improve projects.
- To conceptualize based upon a given program, and learn to experiment in the use of different techniques.

3. Teaching Methodology and Techniques

- Guided projects involving different subjects.
- Class work allowing students to practice the points given during the lecture.
- Presentation of research done on certain assigned subjects.
- Group work is encouraged.

4. Required Text Book/s

Students should rely on their lecture notes and on the handouts provided by the instructor. Practice and class work are the main focus points.

5. Resources Available to Students

- Library Resources: NDU Library is open to students to help you in all your research and class work. Qualified personnel are available to help you.
- Writing Center: The Writing Center provides assistance to all students who wish to discuss their writing with a trained consultant. The Center is located in HA 114. An appointment is required.
- Blackboard (bb) Software: If you are not familiar with the Blackboard system, it is recommended to attend a training session at the University Computer Services in order to know how to use the Blackboard system to enrich the academic communication with your instructor and your colleagues
- Smart Rooms, Design Studios, Photography Studio & Dark Room(s), CAD Computer Workshop, Mackintosh Lab. (DCS), Textile & Ceramics Labs, Wood/Metal Workshop, Design Office, etc

6. Grading and Evaluation

Projects		**70 %**	
One	20%		Midterm
Two	15%		
Three	35%		Final
Attendance		**10%**	
Class work		**20%**	
Total		**100%**	

7. Recommended Readings:

Digital Illustration; a master class in creative image-making – Lawrence Zeegen – RotoVision SA, 2005

Illustration Now! Volume 2 – **Julius Wiedemann** – TASCHEN GmbH, 2007 - also check other volumes)

Animation Now! – **Julius Wiedemann** – TASCHEN

The fundamentals of Animation – Paul Wells – AVA Pubishing SA, 2006

The Animator's Survival Kit – Richard Williams – Faber and Faber Inc., London, New York, 2001

In addition students are advised to research in the library periodicals.

Admission Requirements for the degree of B.S. in Management Information Systems - MIS

Undergraduate Admission

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

The following documents must be submitted with each application form:

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

Freshman applicants must additionally submit:

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

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

Graduation Requirements

To receive the degree of BS in Management Information Systems, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 106 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.0/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of “I” assigned during the last semester to courses required for graduation will result in delaying their graduation.

FNAS – Dept. of Computer Science
B.S. in Management Information Systems

Approved by the BOD on May 11, & UC on May 28, 2010

Introduction

Rationale, utility and finality

MIS is the International appellation and designation of a recent management track and field of specialization.
The finality of this major can be described as follow:
Firms always established a data collection gathered from different sources of information and completed by different processes of data Manipulation.
Upper level staff and managers acquire from the data certain knowledge on certain matters, this knowledge should be managed properly in order to help the decision makers to reach and take the optimal decisions and the most appropriate directions which are supposed to be followed by efficient achievements.
These achievements help firms and individuals to increase competitiveness and productivity.
A set of ready software can be used to deal with all the aspects of firms activities from supplies to distributions and sales. For example, the FMS (Financial Management System), a software put at the disposal of users to handle in the best way their financial operations, the HRMS (Human Resources Management System), the CRMS (Customers Relationship Management System), the MS (Manufacturing Systems, the EPMS (Enterprise Performance Management System), the BIS (Business Information Systems), the SCMS (Supply Chain Management Systems), etc…
Once students have learned how to use these software programs, they will be able to answer different strategic questions such as:
What to order (Raw Materials), how much to order and when to order? How much to produce from each items? What are the optimal quantities of supplies and stocks? Etc….
Therefore, the major contains a theoretical part but also a very important series of applications.
The pre-mentioned software are very expensive and very costly to acquire but fortunately ORACLE Academy (Oracle is a multinational programming company) through personal contacts (meetings held between Dean of FBAE, Dr. Elie Yachoui, and its regional business development manager Mr. Vatche Kademian) is ready to provide us with teaching materials for our teaching faculties and learning materials for our students.
Furthermore, our instructors will be allowed to have a direct access 3 days a week to their software posted and offered in the U.S.A.

Teaching Team

The teaching team will be composed of the computer science faculty of FNAS in collaboration with the management and marketing faculty of FBAE.

Number of Credits required: 94

GER : 33 credits,
Core courses : 27 credits (all required),
Major courses : 28 credits (Major), and
FE : 6 credits (free electives).

Internship

60 hours of Internship (MIS 480, 1cr.), the payment for the instructor will be the same as for CSC 480.

Survey and Information

The following Universities in Lebanon are offering the MIS Major:

LIU : 300 students (approximately),
LAU : 150 students,
AUB : 200 students (Decision Science Department),
AUST : 260 students

From A Qualitative Survey (Pilot test) conducted for some of our students and/or for students coming to NDU seeking information, we can conclude that the Expected number of students in the new major will be approximately between 50 and 75 students in the first year.

A Bachelor of Science in Management Information Systems (MIS) is designed for students interested in the challenging, exciting and high-demand field of information systems. It focuses on integrating business processes and information technology solutions to meet the information needs of organizations, enabling them to achieve their objectives in an effective and efficient manner.

This major is designed to provide students with the opportunity to acquire a solid understanding of business theories and practices combined with an advanced knowledge on the different information systems used in business applications. Careers in MIS are found in business consulting, IT management, Information Management, systems analysis, network & security administration, and electronic commerce.

The degree of Bachelor of Science in Management Information Systems
Degree Requirements 94 credits
General Education Requirements (33 credits)
Required Core Courses (27 cr.)

ACO 201: Principles of Accounting I (3.0)
BAD 201: Fundamentals of Management (3.0)
BAD 425: Quantitative Techniques for Management (3.0)
BAD 429: Operations Management (3.0)
BAD 453: e-Business (3.0)
ECN 211: Principles of Microeconomics (3.0)
ECN 212: Principles of Macroeconomics (3.0)
MRK 201: Fundamentals of Marketing (3.0)
STA 210: Statistics for Business and Economics (3.0)

Required Major Courses (28 cr.)

MIS 310: Business Information Systems (3.0)
MIS 330: Data Management (2,1): *Prerequisite: Junior Standing.*
MIS 333 : Business Intelligence (3.0); *Prerequisite: MIS 330.*
MIS 341 : Web Applications & Development (2,1); *Prerequisite: MIS 330.*
MIS 345: Data Security and Network Administration (3.0); *Prerequisite: MIS 310*
MIS 420: System Analysis for Business Application (2,1); *Prerequisite: Senior Standing.*
MIS 431: Enterprise Computing Systems (2,1); *Prerequisite: Senior Standing.*
MIS 434: Project Management for Information System (2,1); *Prerequisite:. MIS 420.*
MIS 442: Knowledge Management (3.0); *Prerequisite: Senior Standing.*
MIS 482: Management Information Systems Internship (1.0); *Prerequisite: Senior Standing.*

Free Electives (6 cr.)

Bachelor of Science in Management Information Systems
Suggested Program (94 Credits)

Fall Semester I (15 credits)

ACO 201	Principles of Accounting I	3 cr.
BAD 201	Fundamentals of Management	3 cr.
ECN 211	Principles of Microeconomics	3 cr.
ENL 213	Sophomore English Rhetoric	3 cr.
___ ___	GER	3 cr.

Spring Semester I (15 credits)

MRK 201	Fundamentals of Marketing	3 cr.
STA 210	Statistics for Business and Economics	3 cr.
ECN 212	Principles of Macroeconomics	3 cr.
___ ___	GER	3 cr.
___ ___	GER	3 cr.

Summer Session I (6 credits)

__ ___GER 6 cr.

Fall Semester II (15 credits)

MIS 310	**Business Information Systems**	**3 cr.**
MIS 330	**Data Management**	**3 cr.**
___ ___	GER	3 cr.
___ ___	GER	3 cr.
___ ____	Free Elective	3cr.

Spring Semester II (15 credits)

MIS 333	**Business Intelligence**	3 cr.
MIS 341	**Web Applications & Development**	3 cr.
MIS 345	**Data Security and Network Administration**	3 cr.
___ ___	GER	3 cr.
___ ___	Free Elective	3 cr.

Fall Semester III (15 credits)

MIS 420	**System Analysis for Business Applications**	3 cr.
MIS 431	**Enterprise Computing Systems**	3 cr.
BAD 453	e-Business	3 cr.
BAD 425	Quantitative Techniques for Management	3 cr.
___ ___	GER	3 cr.

Spring Semester III (13 credits)

MIS 434	**Project Management for Information Systems**	3 cr.
MIS 442	**Knowledge Management**	3 cr.
MIS 482	**Management Information Systems Internship**	1 cr.
BAD 429	Operations Management	3 cr.
___ ___	GER	3 cr.

Undergraduate Courses: Management Information Systems

MIS 310 Business Information Systems (3,0); 3 cr.

The course will prepare students to learn ways that organizations improve their business practices through the use of computer technology. It introduces the fundamentals of information technology as well as the current and future challenges resulting from those technologies in businesses. Topics covered include databases, competitive advantage using information systems, internet technologies, IT security, and introduction to the concepts of enterprise resource planning systems (ERP), customer relationship management systems (CRM), and supply chain management systems (SCM).

Textbook: Essentials of Business Information Systems, 7th Edition, by Kenneth C. Laudon, Jane P. Laudon (2007), Prentice-Hall, ASIN: B003B7K5UO.

MIS 330 Data Management (2,1); 3 cr.

This course introduces the concepts and principles of database management from a business information system approach. The focus is on issues and principles of managing organizational data. The course discusses the components of relational database and information systems and trains students on designing, analyzing, understanding, correcting, implementing and testing a database application for a real world situation/example of business of their choice. Prerequisite: Junior Standing.

Textbook: The Relational Model for Database Management: Version 2, by E.F. Codd (1990), Addison Wesley, ISBN-13: 978-0201141924 .

MIS 333 Business Intelligence (3,0); 3 cr.

This course examines computer-based information systems which support decision makers: Decision Support Systems (DSS), GDSS, Data Warehouses, Expert Systems, and Executive Information Systems. Students will explore the development, implementation, and application of these systems and how these systems can be applied to current business problems. Prerequisite: MIS 330.

Textbook: Decision Support and Business Intelligence Systems (9th Edition) by Efraim Turban, Jay E. Aronson, Ting-Peng Liang, Ramesh Sharda, Prentice Hall (2010), ISBN-13: 978-0136107293 .

MIS 341 Web Applications & Development (2,1); 3 cr.
This course focuses on the design of business applications in the Web environment. Topics include corporate portal, client-server and web applications. Students will understand the principles of distributed applications, learn how to set up a web server and build web applications with database connectivity. Several tools, software packages, and example web applications will be demonstrated. Prerequisite: MIS 330.
Textbook: Building Portals, Intranets, and Corporate Web Sites Using Microsoft Servers by James J. Townsend, Dmitri Riz, Deon Schaffer, Addison-Wesley Professional (2004), ISBN-13: 978-0321159632

MIS 345 Data Security and Network Administration (3,0); 3 cr.
This course gives an in-depth examination of topics in the management of information technology security including security management, business continuity & disaster recovery, data communication protocols and networking standards and policies in today's businesses. Students will understand the different information communication technologies (ICT), including telecommunications, and technologies that underlie the Internet, and Mobile technology. Prerequisite: MIS 310.
Textbook: Business Data Networks and Security by Raymond Panko, Prentice-Hall (2007), ISBN-13: 978-0536472830.

MIS 420 System Analysis for Business Applications (2,1); 3 cr.
This course explores the process of identifying and analyzing a business process. It describes the tools and techniques used in building information systems and in the implementation of systems analysis. Students will practice the System Development Life Cycle (SDLC) and Rapid Application Development (RAD) by learning how to gather user requirements for a new information system and translating those requirements into a formal specification for a computer designer. Prerequisite: Senior Standing. Textbook: Business Information Systems: Analysis, Design and Practice, Sixth Edition, by Graham Curtis and David Cobham, Pearson Education (2008), ISBN-13: 978-0273713821.

MIS 431 Enterprise Computing Systems (2,1); 3 cr.
This course helps students learn ways in which organizations may use enterprise systems to accomplish strategic and tactical goals. It focuses on the features of an ERP system and examines the strategic use of ERP systems both inside and outside of the firm in the context of the highly dynamic e-commerce business environment. The use of ERP systems in conjunction with e-business will be featured. Prerequisite: Senior Standing.
Textbook: E-Business & ERP: Transforming the Enterprise with E-Business & ERP: Rapid Implenentation and Project Planning Set, by Grant Norris, Wiley (2005), ISBN-13: 978-0471740995.

MIS 434 Project Management for Information System (2,1); 3 cr.
This course presents an integrated view of the concepts, skills, tools, strategies and techniques involved in the management of information systems projects. Project formulation, including development of scope, design options, integration with other projects and project development plans will be applied. Prerequisite: MIS 420.
Textbook: Project Management for Information Systems, Fifth Edition, by James Cadle and Donald Yeates, Prentice Hall (2007), ISBN-13: 978-0132068581.

MIS 442 Knowledge Management (3,0); 3 cr.
This course focuses on the critical role of managing knowledge in organizations today. It shows how KM technologies work to strengthen the effectiveness of an organization and how KM perspective is contributing to the understanding of management in a knowledge society under high-level of uncertainty and complexity. Topics include knowledge creation and transfer, tacit and explicit knowledge, KM strategy preparation, and CRM & SCM projects creation using KM. Prerequisite: Senior Standing.
Textbook: Knowledge Management in Organizations, Second Edition, by Donald Hislop, Oxford University Press (2009), ISBN-13: 978-0199534975.

MIS 482 Management Information Systems Internship; 1cr.
Interns are permitted to enter businesses, governmental agencies, or other organizations for the purposes of obtaining practical and applied management information systems experience. A paper or suitable project associated with a description and analysis of this experience is required. Prerequisite: Senior Standing.

Faculty of Nursing & Health Sciences
Department of Nursing & Health Sciences
Amendments Medical Laboratory Technology Program Curriculum

Approved by the BOD on April 26 & UC on May 28, 2010

Faculty members met on several occasions to discuss changes to the Medical Laboratory Technology Program curriculum. The following were adopted:

1. CHM 211- Principles of Chemistry: has to be offered as a core requirement course since it is a prerequisite for core CHM courses (CHM 213, CHM 215) and cannot be placed in the pool of GER courses.
2. STA 203- Biostatistics: has to be offered as a core requirement course, not as a recommended free elective.
3. GER[1]: must be cut down to 27 as it is the case for professional programs at NDU (for instance Bachelor of Engineering Programs' curricula, NDU Catalog 09-10, pp.325-326). Similarly, GER shall include:
   - Communication skills- 9 cr.
   - Philosophy and religion- 6 cr.
   - Cultural studies and social sciences- 6 cr.
   - Citizenship- 3 cr.
   - Science and technology- 3 cr.

4. Free electives[2]: must be cut down to 3 cr. (comparable to professional programs such as BE at NDU)
5. MLT 312- Clinical Chemistry I, 3 credits (3.0), & MLT 323- Clinical Chemistry II, 3 credits (3.0) shall be replaced by **MLT 311**- Clinical Chemistry I, 2 credits (2.0) and **MLT 322**- Clinical Chemistry II, 2 credits (2.0) respectively[3].

6. MLT 313- Clinical Bacteriology I, 3 credits (3.0): this major course requirement shall be replaced by a new major course requirement **MLT 314**- General Microbiology[4], 4 credits (3.2).
7. MLT 324- Clinical Bacteriology II, 3 credits (2.2): this major course requirement shall be replaced by a new major course requirement **MLT 325**- Clinical Bacteriology[1], 2 credits (2.0).

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[1] To free 3 credits for CHM 211

[2] To free 3 credits for STA 203

[3] It is recommended to have separate courses' syllabi for MLT 311 and MLT 322.

[4] **MLT 314- General Microbiology** course description: Covers structure, morphology, nutritional requirements, metabolism, and growth of microorganisms, culture techniques, microbial diseases, assays, and introduction to microbial genetics. *Prerequisite*: BIO 211. Also listed as BIO 320.

8. MLT 315- Clinical Parasitology I (2.0) & MLT 326 Clinical Parasitology II (1.2): shall be combined into one new major course requirement **MLT 320**- Clinical Parasitology, 3 credits[2] (3.0).
9. Introduce a new major course requirement **MLT 321**- Clinical Mycology, 1 credit[3] (1.0).
10. MLT 317- Clinical Pathology I, 3 credits (3.0): shall be replaced by a new major course requirement **MLT 318**- Hematophysiology, 3 credits[4] (3.0).
11. MLT 328- Clinical Pathology II, 3 credits (3.0): shall be replaced by a new major course requirement **MLT 329**- Hematopathology, 2 credits[5] (2.0).
12. Introduce a new major course requirement **MLT 339**- Blood Banking and Transfusion Medicine, 1 credit[6] (1.0)
13. Introduce a new major course requirement **MLT 327**- Clinical Virology, 1 credit[7] (1.0)
14. Introduce a new major course requirement **MLT 400**- Selected Topics in Laboratory Medicine, 1 credit[8] (1.0).
15. MLT 340- Serology: must have BIO 222-Immunology- as a pre-requisite.

Attached please find the revised **Medical Laboratory Technology** degree requirements and suggested program as they shall appear in the NDU catalogue as of academic year 2010-2011.

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[1] **MLT 325- Clinical Bacteriology** course description: Covers bacterial infections of humans of clinical importance, mode of infection, identification methods, and antibiotic susceptibility testing. *Prerequisite*: MLT 314.

[2] **MLT 320- Clinical Parasitology** course description: Covers parasitic infections of humans of clinical importance, and their diagnostic laboratory techniques. *Prerequisite*: BIO 211.

[3] **MLT 321- Clinical Mycology** course description: Covers fungal infections of humans of clinical importance, mode of infection, methods of identification, and susceptibility testing of fungi. *Prerequisite*: BIO 211.

[4] **MLT 318- Hematophysiology** course description: Covers general hematology, including development and functions of red blood cells, white blood cells, and platelets, coagulation, manual techniques and modern automation. *Prerequisite*: BIO 211.

[5] **MLT 329-Hematopathology** course description: Covers blood cells (erythrocytes, leukocytes, and platelets) disorders, and coagulation disorders. *Prerequisite*: MLT 318.

[6] **MLT 339-Blood Banking and Transfusion Medicine** course description: Covers basic principles in blood banking and transfusion medicine. *Prerequisite*: BIO 222, and MLT 318.

[7] **MLT 327- Clinical Virology** course description: Covers viral infections of humans of clinical importance, mode of infection, methods of identification, and their diagnostic laboratory techniques. *Prerequisite*: BIO 211.

[8] **MLT 400- Selected Topics in laboratory Medicine** course description: Covers recent advances or special topics in the various disciplines of laboratory medicine. *Prerequisite*: Senior standing.

The Degree of Bachelor of Science in Medical Laboratory Technology

Approved by the BOD on April 26, & UC on May 28, 2010

Medical Laboratory Technology (MLT) is a clinically-oriented curriculum that combines academic and professional training. It is designed specifically to meet modern requirements for the profession of medical laboratory technology. MLT is an important contributor to the medical team involved in the diagnosis and treatment of diseases. Physicians rely heavily upon laboratory test results before making decisions. Thus, students will be trained to develop their ability to interpret generated laboratory results in order to provide reliable data for disease diagnosis. An MLT graduate may be employed as laboratory technician, researcher, assistant to a physician, or any other technical position in scientific, medical or pharmaceutical laboratories of hospitals and universities.

Admission Requirements

For admission requirements to the degree of BS in Medical Laboratory Technology, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation Requirements

To receive the degree of BS in Medical Laboratory Technology, a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 103 credits (including clinical training), with a overall grade point average (GPA) of at least 2.0/4.0, and a minimum GPA of 2.3/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying of graduation.

Degree Requirements
(103 Credits)

General Education Requirements **27 cr.**

a) Communications Skills in English and Arabic **9 cr.**

- Two courses from the subcategory ***English (6 cr.)***

ENL 213 and
ENL 223 or ENL 230

- One course from the subcategory ***Arabic (3 cr.)***

ARB 211, ARB 212, ARB 224, ARB 231, ARB 317

b) Philosophy and Religion **6 cr.**

- One course from the subcategory ***Religion (3 cr.)***

REG 212, REG 213, REG 313, REG 314

- One course from the subcategory ***Philosophy (3 cr.)***

ENS 205, PHL 211, PHL 311, POS 345

c) Cultural Studies and Social Sciences **6 cr.**

Two courses from the category ***Cultural Studies and Social Sciences (6 cr.)***

HUT 305, HUT 306, MUS 210, FAP 215, COA 359, COA 315, NTR 215, ARP 215, PSL 201, SOL 201, SOL 301, BAD 201, ECN 200, ECN 211, ECN 212

d) Citizenship **3 cr.**

Two courses from the category ***Citizenship (6 cr.)***

HIT 211, POS 201, POS 210, POS 240, IAF 301, POS 319, POS 337

e) Science and Technology **3 cr.**

- One course from the subcategory ***Mathematics/Statistics/Computer Science (3 cr.)***

CSC 201, MAT 201, MAT 202, MAT 204, MAT 211, STA 202, STA 210

OR

- One course from the subcategory ***Natural Sciences (3 cr.)***

AST 201, BIO 202, BIO 203, ENS 201, ENS 202, ENS 206, HEA 201, NTR 201,

PHS 207, PHS 211

Students majoring in Medical Lab Technology are not allowed to count MLT courses within the pool of required GER courses.

Core Requirements **24 cr.**

BIO 211, BIO 215, BIO 227, CHM 211, CHM 213, CHM 215, CHM 273, STA 203

Major Requirements **49 cr.**

BIO 222, MLT 311, MLT 314, MLT 318, MLT 320, MLT 321, MLT 322, MLT 325, MLT 327, MLT 329, MLT 330, MLT 339, MLT 340, MLT 400, MLT 410, MLT 420, MLT 430, MLT 440, MLT 450, MLT 460, MLT 470

Free Electives **3 cr.**

Bachelor of Science in Medical Laboratory Technology
Suggested Program (103 Credits)

Fall Semester I (16 Credits)

BIO	211	General Biology I	4 cr.
CHM	211	Principles of Chemistry	3 cr.
ENL	213	Sophomore English Rhetoric (GER)	3 cr.
___	___	(GER)	3 cr.
___	___	(GER)	3 cr.

Spring Semester I (16 Credits)

BIO	215	Introductory Human physiology	3 cr.
BIO	222	Immunology	3 cr.
CHM	215	Quantitative Analysis	4 cr.
CHM	213	Basic Organic Chemistry	3 cr.
STA	203	Biostatistics	3 cr.

Summer Session I (6 Credits)

ARB		GER	3 cr.
ENL	223 /23	(GER)	3 cr.

Fall Semester II (16 Credits)

BIO	227	Introductory Biochemistry	3 cr.
CHM	273	Organic Chemistry Laboratory	1 cr.
MLT	311	Clinical Chemistry I	2 cr.
MLT	314	General Microbiology	4 cr.
MLT	318	Hematophysiology	3 cr.
___	___	GER	3 cr.

Spring Semester II (14 Credits)

MLT	320	Clinical Parasitology	3 cr.
MLT	322	Clinical Chemistry II	2 cr.
MLT	321	Clinical Mycology	1 cr.
MLT	325	Clinical Bacteriology	2 cr.
MLT	327	Clinical Virology	1 cr.
MLT	339	Blood Banking and Transfusion Medicine	1 cr.
MLT	329	Hematopathology	2 cr.
MLT	330	Clinical Histopathology and Cytology Techniques	2 cr.

Summer Session II (6 Credits)

REG	___	GER	3 cr.
___	___	Free Elective	3 cr.

Fall Semester III (15 Credits)

MLT	340	Serology	2 cr.
MLT	400	Selected Topics in Laboratory Medicine	1 cr.
MLT	410	Training in Clinical Chemistry	4 cr.
MLT	420	Training in Clinical Hematology	4 cr.
MLT	430	Training in Clinical Bacteriology	4 cr.

Spring Semester III (14 Credits)

MLT	440	Training in Clinical Parasitology & Urinalysis	2 cr.
MLT	450	Training in Serology	2 cr.
MLT	460	Training in Blood Banking	2 cr.
MLT	470	Training in Phlebotomy, Cytogenetics & Histological Techniques	2 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Undergraduate Courses - MLT

MLT 311 Clinical Chemistry I (2.0); 2 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite*: CHM 211.

MLT 312 Clinical Chemistry I (3.0); 3 cr. Concepts of clinical chemistry, mechanisms of diseases and the correlation of laboratory data with those diseases. Clinical interpretation of normal and abnormal values. *Prerequisite*: CHM 211.

MLT 313 Clinical Bacteriology I (3.0); 3 cr. Fundamental aspects of basic and clinical bacteriology. The course consists of lectures and demonstrations in general bacteriology. *Prerequisite*: BIO 211.

MLT 314 General Microbiology (3.2); 4 cr. Covers structure, morphology, nutritional requirements, metabolism, and growth of microorganisms, culture techniques, microbial diseases, assays, and introduction to microbial genetics. *Prerequisite*: BIO 211. Also listed as BIO 320.

MLT 315 Clinical Parasitology I (2.0); 2 cr. An introductory course on the theory and laboratory techniques used in the diagnosis of parasitic infections of humans. *Prerequisite*: BIO 211.

MLT 317 Clinical Pathology I (3.0); 3 cr. The course consists of lectures and demonstrations in hematology, serology and blood banking.

MLT 318 Hematophysiology (3.0); 3 cr. Covers general hematology, including development and functions of red blood cells, white blood cells, and platelets, coagulation, manual techniques and modern automation. *Prerequisite*: BIO 211.

MLT 320 Clinical Parasitology (3.0); 3 cr. Covers parasitic infections of humans of clinical importance, and their diagnostic laboratory techniques. *Prerequisite*: BIO 211.

MLT 321 Clinical Mycology (1.0); 1 cr. Covers fungal infections of humans of clinical importance, mode of infection, methods of identification, and susceptibility testing of fungi. *Prerequisite*: BIO 211.

MLT 322 Clinical Chemistry II (2.0); 2 cr. Continuation of MLT 311. *Prerequisite*: MLT 311.

MLT 323 Clinical Chemistry II (3.0); 3 cr. Continuation of MLT 312. *Prerequisite:* MLT 312.

MLT 324 Clinical Bacteriology II (2.2); 3 cr. Deals with practical experiments in clinical bacteriology which include preparation of smears and culture media, identification tests, for different types of bacteria encountered in clinical microbiology. *Prerequisite*: MLT 313.

MLT 325 Clinical Bacteriology (2.0); 2 cr. Covers bacterial infections of humans of clinical importance, mode of infection, identification methods, and antibiotic susceptibility testing. *Prerequisite*: MLT 314.

MLT 326 Clinical Parasitology II (1.2); 2 cr. Continuation of MLT 315, deals with basic clinical parasitology. Lectures and demonstrations in laboratory techniques that are used in the diagnosis of parasitic infections of humans. *Prerequisite*: MLT 315.

MLT 327 Clinical Virology (1.0); 1 cr. Covers viral infections of humans of clinical importance, mode of infection, methods of identification, and their diagnostic laboratory techniques. *Prerequisite*: BIO 211.

MLT 328 Clinical Pathology II (3.0); 3 cr. Continuation of MLT 317.

MLT 329 Hematopathology (2.0); 2 cr. Covers blood cells (erythrocytes, leukocytes, and platelets) disorders, and coagulation disorders. *Prerequisite*: MLT 318.

MLT 330 Clinical Histopathology and Cytology Techniques (2.0); 2 cr. Series of lectures in cell biology and normal histology of various human tissues. Lectures on techniques of tissue handling, preparation and staining of specimens and smear of cytological material.

MLT 339 Blood Banking and Transfusion Medicine (1.0); 1 cr. Covers basic principles in blood banking and transfusion medicine. *Prerequisite*: BIO 222, and MLT 318.

MLT 340 Serology (2.0); 2 cr. Basic aspects of clinical serology which involves the study of mechanisms, different formats, interfering factors, application and interpretation of commonly used serological tests.

MLT 400 Selected Topics in Laboratory Medicine (1.0); 1 cr. Covers recent advances or special topics in the various disciplines of laboratory medicine. *Prerequisite*: Senior standing.

MLT 401 Selected Topics in Laboratory Medicine I; 1 cr. Lectures on recent advances or special topics in the various disciplines of laboratory medicine.

MLT 402 Selected Topics in Laboratory Medicine II; 1 cr. Continuation of MLT 401.

MLT 410 Practical Training in Clinical Chemistry; 4 cr. 5-weeks practical training in clinical chemistry.

MLT 420 Practical Training in Clinical Hematology; 4 cr. 5-weeks practical training in clinical hematology.

MLT 430 Practical Training in Clinical Bacteriology; 4 cr. 5-weeks practical training in clinical bacteriology.
MLT 440 Practical Training in Clinical Parasitology and Urinalysis; 2 cr. 4-weeks practical training in clinical parasitology and urinalysis.
MLT 450 Practical Training in Serology; 2 cr. 4-weeks practical training in serology.
MLT 460 Practical Training in Blood Banking; 2 cr. 4-weeks practical training in blood banking.
MLT 470 Practical Training in Phlebotomy, Cytogenetics & Histological Techniques; 2 cr. 4-weeks practical training in phlebotomy, cytogenetics & histological techniques.

Faculty of Nursing & Health Sciences
Department of Nursing & Health Sciences
Amendments Nutrition & Dietetics Program Curriculum

Approved by the BOD on April 26, & UC on May 28, 2010

Faculty members met on several occasions to discuss changes to the Nutrition & Dietetics Program curriculum. The following were adopted:

1. CHM 211- Principles of Chemistry: has to be offered as a core requirement course since it is a prerequisite for CHM 213, not as a GER (the case for the present curriculum)
2. STA 203- Biostatistics: has to be offered as a core requirement course, not as a recommended free elective.
3. GER[1]: must be cut down to 27 as it is the case for professional programs at NDU (for instance Bachelor of Engieneering Programs' Curricula). Similarly, GER shall include:
   Communication skills- 9cr.
   Philosophy and religion- 6 cr.
   Cultural studies and social sciences- 6 cr.
   Citizenship- 3cr.
   Science and technology- 3cr.
4. Free electives[2]: must be cut down to 3 cr. (comparable to professional programs such as BE at NDU)
5. Introduce a new major requirement course: NTR 441-Special Topics in Therapeutic Nutrition (see Annex A).
6. NTR 450- Dietetics Counseling and Communication: the course shall be 4 credits with a lab[3] i.e. 3.2.
7. Introduce a new major elective course: NTR 485- Seminar in Nutrition, 1 cr.
8. NTR 460- Therapeutic Nutrition Practium- shall be (1.2) rather than (1.3) for consistency.
9. The passing grade for all major requirements shall be a minimum of C except for NTR 320, NTR 321, NTR 325, and NTR 425.

Attached please find the revised **Nutrition and Dietetics** degree requirements and suggested program as they shall appear in the NDU catalogue as of academic year 2010-2011.

[1] To free 3 credits for CHM 211

[2] To free 3 credits for STA 203

[3] There shall be 1 lab hour/ week which shall cover in depth nutrition care process (NCP) and nutritional assessment techniques and procedures.

The Degree of Bachelor of Science in Nutrition and Dietetics

Approved by the BOD on April 26, & UC on May 28, 2010

Nutrition and Dietetics is an interdisciplinary field that focuses on the principles of human nutrition and foods. Nutrition is the study of food intake influence on health and well-being. It covers specific nutrients' requirements in the diet, their physiological functions in the body and the consequences of nutrients deficiency. It requires an understanding of the composition of food and factors that determine food choice and availability. The study of nutrition also explores the role of diet in the causation of diseases of multi-factorial origin, such as heart disease, diabetes and cancer. The importance of nutrition in preventing diseases has now become well recognized in both developing and developed countries. Dietetics is becoming increasingly important in health promotion and wellness of people throughout the life cycle, from infancy to old age, and in the care of people who are ill. Rapid advances in medicine increase the dietitian's role as a member of the health care team.

Various career opportunities are available to the nutritionist and registered dietitian. Clinical nutritionists and dietitians work closely with other health professionals in hospitals, nursing homes, out-patient clinics, public health agencies and food service/or food processing industries. Administrative dietitians direct the planning, purchasing, production and service of meals in medical centers, restaurants and schools. Holders of graduate degrees in nutrition and dietetics may teach in universities or do research in the field. Experienced registered dietitians may become consultants and go into private practice.

Admission Requirements

For Admission requirements to the degree of BS in Nutrition and Dietetics, refer to the section entitled "Undergraduate Admission" of this catalog.

Graduation requirements

To receive the degree of BS in Nutrition and Dietetics a student must fulfill all requirements of the degree program, complete all required courses, accumulate a total of 94 credits with an overall grade point average (GPA) of at least 2.0/4.0 and a minimum GPA of 2.3/4.0 in both the core and major requirements, and clear all accounts with the university. Candidates for degrees are reminded that grades of "I" assigned during the last semester to courses required for graduation will result in delaying of graduation.

Dietetics Internship

Graduates wishing to qualify as professional dietitians must complete a dietetics internship by spending a minimum of six months in a hospital. Although it is the responsibility of the graduate to make all arrangements for the dietetics internship with a hospital, the University may provide orientation and assistance in identifying internship opportunities. The certificate or attestation that a graduate has completed the required training period will be granted by the hospital.

Degree Requirements -- (95 Credits)

General Education Requirements **27 cr.**

a) Communications Skills in English and Arabic **9 cr.**

- Two courses from the subcategory ***English (6 cr.)***

ENL 213 and

ENL 223 or ENL 230

- One course from the subcategory ***Arabic (3 cr.)***

ARB 211, ARB 212, ARB 224, ARB 231, ARB 317

b) Philosophy and Religion **6 cr.**

- One course from the subcategory ***Religion (3 cr.)***

REG 212, REG 213, REG 313, REG 314

- One course from the subcategory ***Philosophy (3 cr.)***

ENS 205, PHL 211, PHL 311, POS 345

c) Cultural Studies and Social Sciences **6 cr.**

Two courses from the category ***Cultural Studies and Social Sciences (6 cr.)***

HUT 305, HUT 306, MUS 210, FAP 215, COA 359, COA 315, NTR 215, ARP 215, PSL 201, SOL 201, SOL 301, BAD 201, ECN 200, ECN 211, ECN 212

d) Citizenship **3 cr.**

One course from the category ***Citizenship (3 cr.)***

HIT 211, POS 201, POS 210, POS 240, IAF 301, POS 319, POS 337

e) Science and Technology **3 cr.**

- One course from the subcategory ***Mathematics/Statistics/Computer Science (3 cr.)***

CSC 201, MAT 201, MAT 202, MAT 204, MAT 211, STA 202, STA 210

OR

- One course from the subcategory ***Natural Sciences (3 cr.)***

AST 201, BIO 202, BIO 203, ENS 201, ENS 202, ENS 206, HEA 201, NTR 201, PHS 207, PHS 211

Students majoring in Nutrition and Dietetics are not allowed to count HEA and NTR courses within the pool of required GER courses.

21 cr.

Core Requirements

BIO 211, BIO 215, CHM 211, CHM 213, CHM 215, CHM 273, STA 203

Major Requirements **44 cr.**

NTR 210, NTR 227, NTR 313, NTR 320, NTR 321, NTR 325, NTR 330, NTR 425, NTR 430, NTR 435, NTR 440, NTR 441, NTR 450, NTR 460, NTR 495

Free Electives **3 cr.**

Students are encouraged to take NUR 307

Bachelor of Science in Nutrition and Dietetics
Suggested Program (95 Credits)

Fall Semester I (16 Credits)

BIO	211	General Biology I	4 cr.
CHM	211	Principles of Chemistry	3 cr.
CHM	213	Basic Organic chemistry	3 cr.
ENL	213	Sophomore English Rhetoric (GER)	3 cr.
NTR	210	Human Nutrition	3 cr.

Spring Semester I (17 Credits)

BIO	215	Introductory Human physiology	3 cr.
CHM	215	Quantitative Analysis	4 cr.
CHM	273	Organic Chemistry lab.	1 cr.
ENL	223	English in the Work Place (GER)	3 cr.
NTR	330	Community Nutrition	3 cr.
PSL	201	Introduction to psychology (GER-Social Sciences)	3 cr.

Fall Semester II (16 Credits)

STA	203	Biostatistics	3 cr.
NTR	227	Nutritional Biochemistry	3 cr.
NTR	320	Food chemistry	2 cr.
NTR	325	Food Analysis	2 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Spring Semester II (16 Credits)

NTR	321	Food Microbiology	4 cr.
NTR	430	Advanced Human Nutrition	3 cr.
NTR	425	Food Processing	3 cr.
___	___	GER	3 cr.
___	___	GER	3 cr.

Fall Semester III (16 Credits)

NTR	313	Foodservice Management	3 cr.
NTR	450	Dietetics Counseling and Communication	4 cr.
NTR	435	Nutrition in the Life Cycle	3 cr.
NTR	495	Project in Nutrition	3 cr.
___	___	GER	3 cr.

Spring Semester III (14 Credits)

NTR	440	Therapeutic Nutrition	4 cr.
NTR	441	Special Topics in Therapeutic Nutrition	2 cr.
NTR	460	Therapeutic Nutrition Practicum	2 cr.
___	___	GER	3 cr.
___	___	Free Elective	3 cr.

Undergraduate Courses: Nutrition and Dietetics

NTR 201 (3.0); 3cr. An introduction to the study of carbohydrates, fats, proteins, vitamins and minerals and their effects on health. An overview of the processes of digestion, absorption and their metabolism. *Prerequisite*: Sophomore Standing and ENL 105.

NTR 210 Human Nutrition (3.0); 3 cr. Study of macro- and micro-nutrients and their roles in the body, as well as the nutritional needs of an individual throughout the lifespan.

NTR 212 Food Sanitation and Safety (3.0); 3 cr. Food microbiology and food hygiene; causes of food poisoning and food-borne infections; prevention and safety. *Prerequisite*: NTR 201 or NTR 210.

NTR 215 Foods and Nutrition of World Cultures (3.0); 3 cr. The focus of the course is to enhance the student's basic understanding of the cultural factors, which influence food intake and nutritional status. Food and diet patterns of various culture groups will be explored through lecture, food preparation, food sampling, and guest speakers.

NTR 227 Nutritional Biochemistry (3.0); 3 cr. General biochemistry, with emphasis on the biochemical functions of nutrients and their metabolism. *Prerequisite*: BIO 211, and NTR 210, *Corequisite*: CHM 213.

NTR 313 Foodservice Management (3.0); 3 cr. The course focuses on planning and service of safe, nutritionally balanced meals within budgetary margins as well as technical operations in a foodservice system. It includes regulations and standards, and the basics of total quality management in health care and other institutions. *Prerequisite*: NTR 201 or NTR 210.

NTR 320 Food Chemistry (2.0); 2 cr. Covers chemical composition, physical, and sensory properties of food. Focuses on the structural considerations of food components (water in food, lipids, carbohydrates, and proteins), chemicals in food, browning reactions and falvor of food. *Prerequisite:* CHM 213.

NTR 321 Food Microbiology (3.2); 4 cr. A study of microorganisms with emphasis on food spoilage, food poisoning, and the control of pathogenic microorganisms in food. *Prerequisite*: BIO 211.

NTR 325 Food Analysis (1.2); 2 cr. Introduces the laboratory methods for chemical analysis of nutrients and chemicals in food products. Prerequisite: CHM 215. *Corequisite:* NTR 320.

NTR 330 Community Nutrition (3.0); 3 cr. Focuses on community nutrition education programs in schools, health centers, government institutions, and mass media. Emphasis on current research in assessing community nutrition program needs as well as program implementation. *Prerequisite*: NTR 210.

NTR 335 Sports Nutrition (3.0); 3 cr. In-depth coverage of both nutrition and exercise physiology while delivering practical, applied information useful to provide dietary and training guidelines for different kinds of sports. *Prerequisite*: NTR 201 or NTR 210.

NTR 425 Food Processing (2.2); 3 cr. Covers the changes in basic constituents of foods (carbohydrates, lipids, proteins, vitamins, minerals, food enzymes, and water) resulting from processing and preparation. Focuses on the principles of food spoilage and food preservation, and the different laboratory methods of food processing. *Prerequisite:* NTR 320.

NTR 430 Advanced Human Nutrition (3.0); 3 cr. Covers human physiological needs for energy requirements; body needs from food groups such as carbohydrates, proteins and fats; control of nutrient metabolism; and methods of the nutritional assessment. *Prerequisite:* NTR 227 and BIO 215.

NTR 435 Nutrition in the Life Cycle (3.0); 3 cr. Covers the basic nutritional needs of people throughout their life cycle (infancy, childhood, adolescence, adulthood

and elderly people) and the special nutritional requirements during pregnancy and lactation. *Prerequisite:* NTR 430.

NTR 440 Therapeutic Nutrition (3.2); 4 cr. Covers the nutritional needs of individuals throughout their life cycle and in various diseases. Provides the students with an understanding of how nutritional status is assessed in relation to health and disease at the individual and community levels by covering case studies reports and study modules. *Prerequisite:* NTR 430.

NTR 441 Special Topics in Therapeutic Nutrition (2.0); 2 cr. Outlines medical nutrition therapy of selected metabolic, respiratory and neurological diseases, cancers, and food allergies. Also outlines nutritional care during pregnancy and lactation.

NTR 445 Introduction to Dietetics Profession (2.0); 2 cr. Reviews basic skills needed by the dietician including nutritional care, ethics, role and responsibilities in various employment settings. *Prerequisite:* Senior Standing.

NTR 450 Dietetics Counseling and Communication (3.2); 4 cr. Application of the principles of dietetics in a hospital setting. Focuses on the techniques in collection and interpretation of dietary intake. Emphasis on the team concept of patient care and strategies for promoting change in nutritional education. *Prerequisite:* Senior Standing.

NTR 451 Advanced Nutrition I (3.0); 3 cr. Covers carbohydrates, proteins, lipids, fiber and other nutrients, and examines their body metabolism. *Prerequisite:* Senior standing and NTR 430.

NTR 452 Advanced Nutrition II (3.0); 3 cr. Covers the nutritional, biochemical and physiological aspects of vitamins and minerals in human body. *Prerequisite:* NTR 451 and NTR 430.

NTR 455 Diet Therapy in Inborn Errors of Metabolism (3.0); 3 cr. The course deals with congenital defects that require special diet manipulations and possible nutrition support. *Prerequisite:* NTR 440.

NTR 460 Therapeutic Nutrition Practicum (1.2); 2 cr. Case study evaluation of selected topics in advanced therapeutic nutrition and related current pertinent research. *Corequisite*: NTR 440.

NTR 485 Seminar in Nutrition; 1 cr. Students work on selected recent topics in nutrition under the supervision of an advisor. *Prerequisite*: Senior standing.

NTR 495 Project in Nutrition; 3 cr. Emphasizes current research in nutrition and dietetics. *Prerequisite:* Senior standing and consent of instructor.

Undergraduate Courses: Health

HEA 201 Health Awareness (3.0); 3 cr. Comprehensive prevention-oriented approach to personal health topics: stress management, mental health, physical fitness, nutrition and weight control, human sexuality, communicable and chronic diseases, addictive substances and personal safety.

HEA 203 Health Assessment (2.0); 2 cr. Lectures in the assessment of health throughout the life span, where students learn to identify normal and abnormal situation.

DEPARTMENT OF NURSING & HEALTH SCIENCES
FACULTY OF NURSING & HEALTH SCIENCES

Dietetics Internship Program Certificate

Approved by the BOD on April 26, & UC on May 28, 2010

Table of Contents

Introduction

Program description

The proposed Dietetics Internship Program (DIP) will be open to holders of BS in Nutrition and Dietetics interested in pursuing post- graduate hospital training primarily for the purpose of fulfilling eligibility criteria to sit for the National Colloquium Examination. The latter is a must for graduates in Nutrition and Dietetics to obtain the license to practice the profession of dietetics in Lebanon. The suggested program would give the opportunity to accepted candidates to follow a supervised training for a period of 6 months at an affiliated hospital. Upon successful completion of training, applicants would then be issued a certificate. Presently the Faculty of Nursing and Health Sciences had established affiliations with several hospitals (Annex F) and had an appointed dietetics internship program coordinator.

Program mission

The mission of the Supervised Dietetics Internship Program (SDIP) is to provide high- quality academic and professional learning experience for BS in Nutrition and Dietetics Holders to further enhance their knowledge about food, nutrient composition, body processes, theoretical medical nutrition therapy and its application in clinical and hospital settings.

Program goals

The SDIP aims to:

- Provide interns with proper training and supervision to advance their success rate at the National Colloquium Examination
- Promote interns' continuing education and professional development by further developing their communication, critical thinking, problem-solving and decision- making skills as they relate to the profession of dietetics
- Familiarize interns with innovative practice- based therapies based on traditional medical nutrition therapy (MNT)
- Educate interns to practice clinical dietetics using the code of ethics for professional practice and respect to the patients' rights to privacy and best service
- Expand the research experience of interns and provide them with additional skills to research more efficiently and apply new research findings to practice in the hospital or clinic
- Promote interns' adaptation to cultural differences in Lebanon
- Involve interns in the Lebanese professional circle of dietetic practitioners through encouraging them to develop their sense of commitment and professionalism
- Increase the possibility of better employment for interns in a wide range of settings (community, food service, clinical, marketing and education)

Program learning objectives

Upon completion of the SDIP, the intern should have learned how to:

- Scientifically assess the nutritional status of the patient and provide proper medical nutrition therapy
- Apply principles of pathophysiology to nutritional therapy practice
- Be more implicated in food preparation, food safety, recipe quantification and pricing
- Work effectively in a multidisciplinary team

- Manage adequately dietetic department in a hospital
- Be engaged in relevant research, and participate in journal clubs, conferences and lectures in the hospital
- Develop educational material for use in hospital or private clinic setting
- Be more involved in community health promotion and education
- Look for job opportunities and contact effectively job providers

Learning objectives assessment (including tools of assessment)
Assessment of interns' performance toward realization of program learning objectives is conducted through the DIP coordinator's weekly visits to hospitals, evaluation and correction of assignments, and joint evaluation by DIP coordinator & the hospital supervising dietitian (herein referred to as preceptor) of interns' performance conducted every 2 months.

Interns are expected to show satisfactory performance during/ or in:

- Clinical rotations on the floor, food service and food production rotation in the dietary department (administrative procedures, menu planning, tray line supervision, personnel education, recipe testing, creation of new desserts for chronic diseases patients) and in community actions (if available) (Annex A and Annex B)
- Patient MNT counseling (evaluation done jointly by the hospital supervising dietitian and the DIP coordinator) (Annex A)
- Project report, and assignments administered by the supervising dietitian in the hospital and/ or the DIP coordinator (Annex C)
- One-to-one sessions of case reports' evaluation done between the intern and the internship coordinator (cases sorted by rotation or chapter) (Annex D)

In addition, interns' evaluation of their training will be solicited toward completion of internship (Annex E)

Program admission and allocation criteria
For admission into the program, the applicant must:
- Have a BS in Nutrition and Dietetics
- Present complete curriculum vitae (including professional experience if any)
- Present 2 letters of recommendation

Allocation[16] of interns takes into consideration the following factors:
- Applicant's GPA: those with the highest GPAs would be allocated to major hospitals (such as St. Joseph, St. George Hospital- Achrafieh, Sacre Coeur hospital, and Middle East Institute of Health)
- Applicant's recommendation letters
- Applicant's prior professional experience
- Applicant's place of residence and ease of commuting to the hospital
- Applicant's choice of 3 hospitals

Program tuition fees
Considering that many hospitals ask for compensation[17] (Annex F) and half of the work load of the appointed DIP coordinator is set aside for this internship program, we estimate the program tuition fees to be 1,500 USD.

[16]Hospitals require the following documents to be submitted by interns: copy of ID, 2 recent photos, CV, transcript of grades, 2 letters of recommendation, attestation letter from the DIP coordinator at NDU
[17] In return for monetary compensation to hospitals, interns shall be provided one free meal during their presence on site.

The Dietetics internship program components

The DIP program is conceived to be implemented in a hospital setting; yet not all hospitals have the facilities to offer practice in all nutritional topics and areas. Thus, where available practice of medical nutrition therapy will take place in the hospital, whereas if unavailable, the DIP coordinator will make certain that the subject be covered theoretically.

Orientation

The line of work would be explained by the hospital supervising dietitian (preceptor). It will include both the dietary department and the kitchen tour with a period of 2-3 days of observation. The intern would then be able to gather up the books and documents needed to start the internship and get acquainted with the work environment.

Internal medicine

Imbalance of body weight and anemia (2 weeks)

The intern is expected to:

- Read weight management, nutrition assessment and behavioral disorders chapters
- Draft his/ her exchange list by measuring actual food portions and cooked Lebanese meals
- Make a list of allowed and not allowed foods for weight balance
- Make a list of food preparation advices
- Study the normal diet given in the hospital
- Be able to discuss the different types of anemia (symptoms, causes and diagnosis)
- Be able to list iron rich food sources
- Be able to identify which factors increase and which factors decrease iron bioavailability in food
- Be able to discuss anemias that are due to vitamin B12 and folic acid deficiency, and how vitamin B 12 deficiency can mask folic acid deficiency
- Conduct floor visit with the hospital supervising dietitian and observe many (a minimum of 3 visits) counseling sessions of patients suffering from weight imbalances
- Start tray line supervision with the hospital supervising dietitian
- Submit relevant assignment

At this level interns are expected only to observe because they are not yet familiar with progressive diets, diabetic diets, renal diets…

Diabetes and endocrinology (2 weeks)

The intern is expected to:

- Read relevant chapters in different books
- Study other endocrine disorders and their treatment
- Conduct floor visit with the hospital supervising dietitian and observe several counseling sessions of diabetic patients (a minimum of 3 visits) before conducting one on his/ her own
- Check diabetic patient files for medications (insulin and oral diabetic medications)
- Conduct tray line supervision with the hospital supervising dietitian (with emphasis on the diabetic patient card and diet given in the hospital)
- Submit assignment

Diseases of the circulatory system (2 weeks)

The intern is expected to:

- Read relevant chapters regarding hypertension, cardiovascular diseases, atherosclerosis…
- Make a list of allowed and not allowed foods for such a diet
- Conduct floor visit and file reading (and SOAP notes writing if permitted in the hospital) with the hospital supervising dietitian
- Check patient files for medications used for cardiovascular and hypertensive diseases

- Conduct tray line supervision with the hospital supervising dietitian (with emphasis on the card specific for this disease on the hospital menu)
- Submit assignment

In addition, the intern may submit a project on menu additions that could serve the low fat menu

Kidney disorders (renal failure, kidney stones, transplant) (3 weeks)
Depending on whether there is a dialysis unit available in the hospital and whether there are renal cases available in the internal medicine floor, the intern is expected to:

- Read relevant chapters regarding the renal disorders
- Make a list of allowed and not allowed food for renal patients
- Be able to identify potassium, phosphorus, and sodium content of foods
- Be able to identify foods rich in purines and oxalates/general advices for this diet
- Be able to formulate diet for renal patients
- Be familiar with renal transplant diet and protocol
- Conduct floor visit (including visit to dialysis unit if available) with the hospital supervising dietitian to perform patient education and assessment of the blood tests and patient' charts
- Conduct tray line supervision with the hospital supervising dietitian (with emphasis on the card and menu convenient for the different cases of the renal patient
- Submit assignment

Surgery
Gastroenterology and post operative care (3 weeks)
The intern is expected to

- Read relevant chapters from different sources
- Mask a list of gluten- free products available in the market
- Draft a list of fiber content of food with fiber classification
- Conduct floor visit (with the hospital supervising dietitian) which will cover: progressive diets, esophageal, gastric, intestinal, liver and pancreatic diseases, for the purpose of chart reading, patient education and SOAP
- Conduct tray line supervision with the hospital supervising dietitian (with emphasis on these cases and their proper menu in the hospital)
- Read about test diets and think about possible tray line applications
- Read about gastric bypass and be familiar with appropriate diet
- Submit assignment

In addition, the intern may submit a project on IBD.

Pediatrics (infancy and childhood) (2 weeks)
The intern is expected to:

- Read about nutritional requirements during development, childhood nutritional disorders, and metabolic disorders in children
- Conduct floor visits with the hospital supervising dietitian for the purpose of patient's chart reading and education of the patient and family
- Check renal pediatric diets if the hospital provides renal care, and conduct patient education
- Conduct tray line supervision
- Devise diet for special pediatric cases
- Submit assignment

In addition, the intern may submit a project on childhood obesity (for instance: Under what conditions can we put a child on weight loss diet or on a weight maintenance diet?)

At the completion of this module, the intern is expected to supervise tray line alone without guidance from the hospital supervising dietitian.

Tube feeding and neuromuscular disorders that necessitate it (2 weeks)
The intern is expected to:

- Read about tube feeding, Alzheimer, Multiple Sclerosis, Parkinson, …
- Conduct kitchen visit to the preparation area of the tube feeding
- Be familiar with the feeding tools for these patients
- Conduct floor visit with the hospital supervising dietitian for the purpose of patient and family education
- Learn about the market products (Tube Feeding)
- Submit assignment

Cancer/ bed sores/ osteoporosis/ respiratory and other wasting diseases (2 weeks)
The intern is expected to:

- Read relevant chapters
- Be familiar with diet and nutritional guidelines for patients who develop bed sores
- Be familiar with diet and nutritional guidelines for patients with osteoporosis
- Conduct floor visit
- Conduct tray line supervision
- Submit assignment

In the addition, the intern may submit a project on improving the food quality regarding a wasting disease in the hospital (menu additions…).

Pregnancy and lactation (2 weeks)
The intern is expected to:

- Read relevant material
- Identify human milk versus formula milk and convey information to expectant mothers
- Conduct educational sessions and promote breast feeding
- Conduct community work with expectant mothers
- Submit assignment

In addition, the intern may submit a related project.

Administrative work (4 weeks)
The intern is expected to develop practice in:

- Personnel management: job description, schedule…
- Menu cycle, recipe standardization and quality control
- Stock keeping
- Food hygiene and sanitation
- HACCP and ISO explanation

In addition, the intern may submit a related project.

Additional notes on DIP components

- At the end of each rotation, the DIP coordinator will attend a patient consultation with the intern, will receive and correct the assignment/related project and will receive a filled evaluation sheet from the floor dietitian rating the performance of the trainee
- At the completion of the internship, the intern can be asked to submit a food production-related project and/ or a presentation on a recent finding in nutritional sciences
- The idea of a journal club can be introduced biweekly
- The intern can be asked to develop a 3 weeks menu including variations for all diseases
- Drop evaluations or drop quizzes could be introduced as well to properly monitor the student progress and continuous education

The DIP Coordinator: qualifications, roles and responsibilities

Qualifications

The coordinator must have:

- Completed a BS degree in Nutrition and Dietetics
- Earned a license to practice dietetics in Lebanon
- Be a practicing dietitian with a minimum of experience of 5 years in clinical dietetics
- Be willing to teach on campus in addition to the internship coordination task

Roles and responsibilities

The DIP coordinator is expected to:

1- Coordinate and supervise students' training in affiliated hospitals from enrollment to completion. In detail, the coordinator is expected to:
   - Establish and maintain affiliations between FNHS at NDU and hospitals of interest
   - Serve as liaison person between FNHS Dean/Chairperson at NDU and the responsible persons in the hospital, as well as with interns
   - Coordinate arrangement and placement of interns in affiliated hospitals
   - Revise program objectives and monitor implementation of training program (may also recommend amendments in line with program implementation outcomes)
   - Monitor interns' progress and conduct continuous assessment of interns' performance: for this end the coordinator is expected to conduct on-site visits every 2 weeks
   - Provide interns with relevant educational resources (Manual of clinical dietetics and online ADA manual of clinical nutrition, etc.)
   - Establish a learning bond with the intern to prepare him/her to sit for the National Colloquium Examination as part of the benefits of the internship program
   - Inform FNHS Dean/ Chairperson about any problem that may arise with affiliated hospitals or interns

2- Draft the DIP detailed manual

3- Maintain confidentiality of students' records and evaluations

4- Treat interns fairly and objectively while providing regular constructive evaluations

5- Recommend graduates of the program to likely employers (whenever possible)

In addition, the DIP coordinator may actively assist in creating and implementing a dietetic internship program adapted to a dietetic department in an affiliated hospital that may offer an exclusive contract to NDU to hire a certain number of interns per year.

Annexes: A, B, C, D, E & F

Annex A - Dietetic Intern Performance FLOOR Evaluation
MNT Rotations

Definition of Performance Standards
1 - Novice – requires frequent supportive and occasional directive cues; identifies principles but needs direction to identify application
2 - Beginner – requires a supportive or directive cue occasionally; applies principles accurately with occasional cues; works at acceptable standards
3 - Competent – demonstrates sound knowledge and effective use of entry level skills; seeks assistance after investigating potential solutions
4 - NA – Not observed/not applicable
1 2 3 4

A. Initiative
Prepares appropriately for rotation
Seeks out information and answers questions independently
Seeks out opportunities for additional learning
Comments:

B. Nutrition Assessment and Care Plan Skills
Performs nutrition screening of patients (if applicable)
Identifies pertinent data from medical/diet/social histories and from the medical progress notes
Conducts diet history when appropriate
Understands and appropriately utilizes laboratory values to analyze patient's status
Reviews patient's drugs to analyze for nutrient reactions and GI disturbances
Assesses patient's caloric, protein and fluid needs based on stress level and medical condition
Analyzes, evaluates, and summarizes assessment to identify nutrition problems
Designs and implements nutrition care plans as indicated by patient's health status
Integrates pathophysiology into nutrition recommendations + KNOWS PATHOPHYSIOLOGY
Monitors patient's food and/or nutrient intake + KNOWS HOW TO INPUT a 24H RECALL
Exhibits comprehension of how labs, medications, and MNT function together
Comments:

C. Chart Note Skills
Writes organized, clear, and concise statements
Documents nutrition assessment and intervention
Summarizes anthropometric, biochemical, and clinical dietary data to identify nutrition problems in concise statements
Comments:

D. Patient Education Skills
Assesses and identifies patient needs for education
Counsels and educates patients with appropriate materials and individualization
Comments:

E. Communication Skills
Practices good listening skills (allows others time to formulate and complete statements)
Practices good *speaking* skills:
Communicates appropriately with patients and family
Communicates appropriately with other health professionals
Uses diplomacy in approach to others +polite
Asks appropriate questions in various situations

Avoids excessive wordiness
Comments:

Date: _____

Signature of Supervisor: _____

Signature of Dietetic Intern: _____

SUMMARIZED EVALUATION OF INTERN DURING MNT COUNSELING

Rating:

NA - Not available or applicable: No opportunity to observe this behavior.
5 – Acceptable: High level of accomplishment and performance for student at this point in program; works well with minimal direction and supervision.
4 – Acceptable: Meets competency criterion; needs minimal direction and supervision.
3 – Acceptable: Meets competency criterion; needs direction and supervision.
2 – Unacceptable: Some accomplishment but quality of work does not meet competency criterion; requires close direction and supervision.
1 – Unacceptable: Inadequate performance, even with constant direction and supervision.
0 - Not show: Behavior would have been appropriate but not attempted by the student.

-Choose and/or develop appropriate instruction materials.
-Review these with the Clinical Dietitian or the Clinical Instructor.
-Introduce self (if necessary) and observer.
-Establish rapport and put the client at ease.
-Deal with the individual's visitors, including family members, appropriately.
-Organize instruction.
-Explain the purpose of the diet.
-Establish two-way communication.
-Adapt the subject matter and the explanation to the individual's level of understanding.
-Adapt the diet to meet the needs of the individual.
-Give correct information.
-Answer questions.
-End discussion appropriately.

Annex B - Intern Evaluation Form

TO BE DONE WITH THE HOSPITAL DIETITIAN (ONCE PER 2 MONTHS)

Student Intern: _____ **Date:** _____

Annex C - DIETETIC EVALUATION AND HOMEWORK SUBMISSION

HOSPITAL	INTERN	HW SUB	TOPIC	EVAL	DATE

Annex D - THE PATIENT COMPREHENSIVE ASSESSMENT
The intern is required to complete this entire form pertaining 1 floor patient during each MNT rotation

PATIENT DATA
Admission Date

Diet **Sex** **Age**

Ht **Wt** **IBW/ABW**

%IBW/ABW

Usual Wt. % **Usual Goal Wt.**

BMI

Diagnosis:

Past Medical History:

Diagnostic tests:

Test Date :

Surgery:

Date: Procedure:

Consults: (Speech, Psychotherapy..other doctors)

Treatments:

Date: Procedure:

Medications and Uses:

Nursing:
****Admission Work-up (physical exam, meds)**

Social, Family History

Observations (food intake, appetite, elimination, behavior, etc.)

Brief Disease Review:

Medical Nutrition Therapy: Exchanges+1 day menu
Estimated Needs: (show calculations)

Kcal

Pro

Fluids

Diet (date, diet order as in hospital)

Physical Exam Findings and Systems Review (based on your clinical observations)briefly
*Hydration
*Skin/mucosal changes
skin
nails
mouth
*Face/neck
*Musculoskeletal

Readings RELEVANT to the rotation:

TO BE DEVELOPED BY STUDENT:
Education material or lists of foods relevant to the rotation:

Annex E - DIETETIC INTERNSHIP STUDENT EVALUATION FORM

Intern Name:

ID NUMBER: ***DATE:***

Hospital Name:

Supervising Dietitian:

Internship Coordinator from NDU:

1-Did the internship meet your interests, values and goals?
2-Were you treated as a professional member of staff during your internship?
3-Did you become involved in any internal conflict that occurred in the hospital? If yes describe the situation.
4-How would you rate your place of work? Office, desk place, chair, telephone…
5-Were documents or internet available for you to conduct your research?
6-How did you find offices practices like holidays, office hours, dress, protocol…? Did you follow them?
7-Did the staff and dietitian help you to familiarize with the organization, the system, the procedure?
8-How would you rate your relation with the kitchen staff?
9-How would you rate your relation with the dietitian?
10-How would you rate your relation with the hospital staff (like doctors and nurses)?
11-How would you rate the efficiency of the readings and home works given by the dietitian? Were they effectively planned to meet your goals and expectations?
12-How would you rate the efficiency of the readings and home works given by the internship coordinator?
13-Were these assignments properly corrected?
14-Did you have any negative experience in terms of
A-Your relation with the dietitian
B-Your relation with the patient
C-Your relation with the kitchen staff
D-Your relation with the nurse or medical staff
15-Do you have any changes you would like to implement to the program in the hospital's dietetic department? To the program given by the internship coordinator from NDU?
16-Have you expressed the desire to change anything in the program? Was your suggestion accepted and implemented?
17-Did you contribute to any change in the department work (recipes, employee education)or kitchen work flow?
18-Did the internship permit you to re-evaluate your career objectives?
19-What did this experience add to your professional development?
20- In brief, what are the strong points and weak points of your internship?
20-Would you recommend this internship to your fellow student?

Intern signature:

Internship coordinator signature:

Department of Nursing and Health Sciences
New Course NTR 441

Approved by the BOD on April 26, & UC on May 28, 2010

Course Code: NTR 441
Course Name: Special Topics in Therapeutic Nutrition

Credits: 2 cr. (2.0)

Textbooks:

1- ***Nutrition and diagnosis-related care***. Sylvia Escott-Stump.2008. 6th ed. LWW
2- ***Manual of clinical Dietetics***. ADA and dietitians of Canada.2000. 6th ed. ADA
3- ***Food Nutrition and diet therapy***. Mahan, Escott-Stump.2004. 11th ed. Saunders

Course Rationale:
The growing prevalence of diseases such as pediatric metabolic disorders, cancer and HIV infection necessitates drawing attention to the importance of nutritional therapy as part of their medical care. This course is proposed to expand the students' knowledge in the medical nutrition therapy of the selected metabolic disorders, cancers, as well as food allergies, in addition to nutritional care during pregnancy and lactation. It constitutes a complement to the course NTR 440 (Therapeutic Nutrition) that covers nutritional therapy of chronic diseases such as obesity, cardiovascular, renal and diabetic ones.

Course Description:
This course examines a selection of metabolic, respiratory and neurological diseases as well as cancer and food allergies: it provides an overview of the disease, its metabolic pathway, and the growing importance of medical nutrition therapy as part of the patient care. It also outlines nutritional care during pregnancy and lactation.

Course Learning Goals:

1- Provides comprehensive information about the etiology of the different pediatric metabolic diseases, cancer and HIV infection and their respective metabolic pathways
2- Highlights the importance of medical nutrition therapy in the treatment and care of these different diseases
3- Translates the basic concepts of medical nutrition therapy of the above diseases into practical concepts of menu planning and daily hospital and home setting nutritional care

Course Learning Objectives:
After completion of the course, the student should be able to:

1- Develop a comprehensive understanding of the conditions and disorders that require nutritional interventions
2- Discuss abnormalities in structure and function of a diseased tissue or organ and identify the effect of the abnormality upon total body metabolism
3- Acquire medical nutrition therapy implementation techniques (like diet giving, counseling and daily hospital and home nutritional care)
4- Define the relationships between the disease and food and nutrient intake design nutritional care plans

5- Develop a wider knowledge about rare metabolic conditions and be able to develop a proper medical nutrition therapy convenient for the condition
6- Apply nutritional counseling and diet devising approaches in the follow up of a pregnant and/or lactating woman

Course Topics[18]:

1- Nutrition care during pregnancy and lactation.
   a- normal pregnancy
   b- gestational diabetes
   c- Special conditions during pregnancy: pre-eclampsia, toxoplasmosis…

2- Pediatric nutrition assessment (including an overview of low birth weight babies condition)

3- Pediatrics: birth defects and genetic and acquired disorders:
   a- Failure to thrive
   b- Inborn Errors of CHO metabolism
   c- Maple Syrup Urine Disease
   d- Obesity in childhood
   e- Phenylketonuria
   f- Spina Bifida and neural tube defects
   g- Tyrosinemia
   h- Pediatric renal disease

4- Cancer and other wasting diseases

5- Food hypersensitivities

6- Respiratory diseases
   a- COPD
   b- Cystic fibrosis
   c- Lung transplant

Course Assignments:

Case studies covering major topics dealt with in the course.

[18] Some of the topics will be fully covered; others will be introduced and broadly covered.

FPSPAD – New Courses

Approved by the BOD on April 27, & UC on May 28, 2010

- **POS 213 Introduction to Gender Studies**
- **POS 309 Citizenship**
- **IAF 209 Elements of Globalization**
- **IAF 404 Laws of Disruption**

POS 213 *Introduction to Gender Studies (3.0); 3cr.*

Description: This course examines how gender plays a pervasive role in structuring social life. It emphasizes how the social constructs of ethnicity, class, gender, colonial legacy, and cultural identity intersect to legitimize the power and privilege of women and men internationally, with a special focus on the Middle East. Topics include the debate between nature versus nurture, intersections of race, class, gender, and social institutions such as family, education, work, and cultural hegemony.

Course Rationale: Gender studies is an important part of ongoing research on globalization and civil society. The examination of socially constructed notions, such as ethnicity, class, gender, colonial legacy, cultural identity, and the manner in which they impact and legitimize power for women and men internationally and specifically in the Middle East is crucial to critically assess the region. Furthermore, gender plays a key role in the social, political, and economic development of a state, specifically in areas such as policy making and implementation. The rationale behind the introduction of such a course stems from the need to both mainstream gender related issues, on the one hand, and to lay the foundation for a gendered approach to other fields study, on the other. Students will be faced with these issues throughout their future careers, both in the private/for profit industries, and in governmental and civil society sectors. This course will deal with both international discourse and regional developments and thus prepare students for job opportunities in the Middle East and the global market.

Suggested Textbooks:

- Plante, Rebecca ed., Doing Gender Diversity, Westview Press, 2009.
- Peterson, V. Spike, Global Gender Issues in the New Millenium, 3rd Ed., Westview Press, 2009.
- Kumar, Nita, The Politics of Gender, Community, and Modernity, Oxford: Oxford University Press, 2006.

POS 309 *Citizenship (3.0); 3cr.*

Description: This course introduces students to the concept of citizenship and the relationship between the individual and the state. Participants learn to recognize the rights and duties of the individual, thus reinforcing their capacity for critical thinking and active engagement in public affairs.

Course Rationale: One of the core elements of NDU's mission statements is to provide quality education that promotes and fosters the concept of "enlightened citizenship". The purpose of this course is to create awareness of the individual and the relationship to the state in a global context. Students will examine key citizenship concepts in order to deepen their understanding of the relationship between the individual and the state and study how communities change over time. Thus, by increasing their awareness and ability to critically approach facts, opinions, and biases, participants in this course will be able to create informed judgments on key issues confronting them in their daily lives, be it in the workplace, in the local community, in national politics, or in the "global village", i.e. as a citizen of an increasingly globalized world.

"Enlightened citizenship" is based on a general appreciation for the universal norms of civil rights and duties and their contextualization within the specific region in which an individual interacts with the state expresses. This course offers students and overview of the most important theories

of citizenship on the international level and links them to the realities in the Middle East and Lebanon in particular. It builds on work done in the field by civil society players and academic institutions.

Suggested Textbooks:

- Reid, Alan, Judith Gill, and Alan Sears, ed. Globalization, the Nation-State and the Citizen: Dilemmas and Directions for Civics and Citizenship Education, Routledge, 2010.
- Rimmerman, Craig, The New Citizenship, Westview Press, 2010.

IAF 209 Elements of *Globalization (3.0); 3cr.*

Description: This course analyzes the multitude of factors that have increasingly been leading to the phenomenon of globalization in the international system: political, economic, technological, communication, cultural, organizational, financial, legal, and structural/political among others. The course focuses on case studies in the various dimensions of globalization worldwide, and on directed individual and group research.

Course Rationale: Just as any foreign or imported concept, globalization carries a wide array of concepts and notions which tend to be undermined by a mere restriction of its economic dimension. In fact, Globalization describes an ongoing process by which regional economies, societies, and cultures have become integrated through a globe-spanning network of communication and trade. Although generally recognized as an economic globalization i.e. the integration of national economies into the international economy through trade, foreign direct investment, capital flows, migration, and the spread of technology, globalization is actually being driven by a combination of economic, technological, socio-cultural, political, and biological factors. The term can also refer to the transnational circulation of ideas, languages, or popular culture. Due to the richness of this concept, we find it highly important to conduct an exhaustive examination of its various forms and dimension, in order to provide students with more educated knowledge and thus prepare them better to cope with today's global world.

Suggested Textbooks:

- Steger, Manfred, Globalization: A Very Short Introduction. Oxford: Oxford University Press, 2003.
- Hurrell, Andrew, and Ngaire Woods ed., Inequality, Globalization, and World Politics, Oxford University Press, 2010.
- Beeson, Mark, and Nick Bisley, Issues in 21st Century World Politics, Palgrave Macmillan, 2010.

IAF 404 *Laws of Disruption (3.0); 3 cr*.

Course Description Examination of the various natural, economic, scientific and technological factors which trouble the status-quo of states thus pushing them to develop different political strategies to meet the changes in the world order. Topics include global warming, advancement of technology and cyber space, nuclear development and natural disasters.

Course Rationale: States are under a continuous pressure to meet the needs of an ever-changing world. This course aims to increase awareness on the foreseen and unforeseen developments which occur on various sectors: economy, technology, environment etc… These factors are stimuli for the states to change their strategies and re-rank their priorities according to the changes and their possible repercussions. Issues like global warming and its consequences on environmental and economic policies; nuclear development and its political and ethical repercussions; cyber space and potential cyber conflicts; as well as natural disasters and their impact on state stability and growth… all these and similar issues are concerns of the states and they fall at the center of their strategy-making, as well as their standing within International Relations

Suggested Textbooks:

- Downes, Larry, The Laws of Disruption, 1st ed., Basic Books, 2009.
- Laidi, Zaki, The Great Disruption, Blackwell Publishers, 2007.

Minor in Strategic Studies

Rationale
Strategic studies deals with the attempts of sovereign states, and other international players (e.g. UN, EU, NATO) to deal with the contemporary issues challenging their political and economic interests. It enables students to combine their knowledge of politics with a review of the international environment in which it takes place. This interdisciplinary academic field of study is dedicated to the relationship between the political process, geography, the allocation of natural resources, economic development, and military power. The curriculum also includes the role of diplomacy and threats in the preparation and use of force. Specific topics include the emergence and resurgence of major regional powers such as China, India, and Russia, the changing role of the US as the world's remaining superpower, political Islam, and the military, economic, political developments in crisis regions in Africa, the Middle East, Central and Southern Asia.

Introducing a minor in Strategic Studies at NDU will allow students to widen their knowledge across the faculties in a comprehensive way. Issues related to economics, politics, international relations, resources and technology will thus gain different dimensions in the minds of the students, who would then be able to apply their knowledge in the world around them.

The minor in Strategic Studies would be of particular benefit to students in the following majors and fields of study

- Primarily in Political Science, Public Administration, International Affairs and Diplomacy, Business Administration, Energy Economics, International Business Management, Advertising, Sociology and Marketing.
- Peripherally in Natural Sciences, Psychology and Economics

Proposal

The NDU minor in Strategic Studies would be comprised of 18 credits. Its official title would be: Minor in Strategic Studies. It would be comprised of three core requirements, of three hours each, and three electives, of three hours each, taken from a pool of courses offered in the FPSPAD and FBAE.

Core Minor Requirements

- **IAF 231** *World Political Geography*
- **IAF 331** *Geopolitics*
- **IAF 332** *Introduction to strategic Studies*

Minor Electives (one of which must be a 400 level course)
- **IAF 209** *Elements of Globalization*
- **IAF 211** *Introduction to International Relations*
- **IAF 333** *Terrorism*
- **IAF 404** *Laws of Disruption*
- **IAF 411** *Conflict Managements and Resolution*
- **PAD 322** *World Political Economy*
- **POS 323** *Minority Politics*
- **POS 403** *Arab-Israeli Conflict*
- **ENR 401** *Petroleum in the World Economy*

Strategic Studies minor courses
Course descriptions

IAF 209 ***Elements of Globalization*** (3.0); 3 cr. Analyzes the multitude of factors that have increasingly been leading to the phenomenon of globalization in the international system: political, economic, technological, communication, cultural, organizational, financial, legal, and structural/political. The seminar focuses on case studies in the various dimensions of globalization worldwide, and on directed individual and group research.

IAF 211 ***Introduction to International Relations*** (3.0); 3 cr. An examination of the nature and evolution of the major concepts that shape international relations: the balance of power, the role of states in the international system, international law, and the elements of foreign policy. Prerequisite: ENL 107

IAF 231 ***World Political Geography*** (3.0); 3 cr. A general survey of states in the world that focuses on politically relevant geographic information: location, size, population, principal cities, major resources.

IAF 331 ***Geopolitics*** (3.0); 3 cr. The course provides an analysis of the reciprocal effects of geography and political organization on the geopolitical positions of states, in the international system, including size and location demography, national resources, spatial strategies and maritime power. Other topics include: theories of geopolitics, the impact of nationalism on geopolitics, political geography, and the interrelations among geopolitics and international relations. Prerequisite: IAF 231 or consent of instructor.

IAF 332 ***Introduction to strategic Studies*** (3.0); 3 cr. This course introduces students to the field of strategy; the basic concepts and issues of strategy, deterrence, defense, and arms control, an overview of defense policies, programs, and problems. Students will learn how to relate International Relations and Political Science theory to Strategy. Furthermore, students will be able to understand how political military leaders develop policies during times of war and peace. Strategy is a byproduct of geopolitics. Currently, International Relations, as well as Political Science are both directly related to the field of Strategy.

IAF 333 ***Terrorism*** (3.0); 3 cr. This course studies terrorism in modern times, its definition, its history, its roots and its geographical spread. Other topics include: The political, religious, social, cultural, economic, and ideological causes of terrorism as well as international cooperation in the fight against terrorism. The course is supplemented by a number of case studies including the September 11 terrorist attack and other examples selected from various countries

IAF 404 ***Laws of Disruption*** (3.0); 3 cr. Examination of the various natural, economic, scientific and technological factors which trouble the status-quo of states thus pushing them to develop different strategies to meet the changes in the world order. Topics include global warming, advancement of technology and cyber space, nuclear development and natural disasters…

IAF 411 ***Conflict Managements and Resolution*** (3.0); 3 cr. This course examines the causes of conflict, its management and neutral resolution. It prepares the student to define the nature of conflict, understand its causes and ramifications, study ways to manage and limit its scope, and then search for solutions. Prerequisite: IAF 211 or consent of instructor.

PAD 322 ***International Political Economy*** (3.0); 3 cr. Studies the contemporary issues in international political economy approaches, global welfare, international debts, equality, ecology.

POS 323 ***Minority Politics*** (3.0); 3 cr. An examination of the social, cultural and economic factors which affect the political choices of minorities. Analysis of minorities' political rights and actions.

POS 403 ***Arab-Israeli Conflict*** **(3.0);** 3 cr. A study of the Arab-Israeli conflict and its effects on the legal, economic, and political patterns of the region and the international community.

ENR 401 ***Petroleum in the World Economy*** (3.0); 3 cr. Examination of the structure of the world petroleum industry. Topics covered include: introduction to petroleum industry; market structure; trends in world petroleum markets; demand and supply of petroleum; cost of production of petroleum; petroleum prices; cartels; petroleum cycles and crises; petroleum policies and strategies. Prerequisite: ECN 321.