

**Faculty of  
Agricultural and  
Food Sciences  
(FAFS)**

# Faculty of Agricultural and Food Sciences (FAFS)

## Officers of the Faculty

Peter F. Dorman	President of the University
Ahmad Dallal	Provost, ex-officio
Nahla Hwalla	Dean
Jad Chaaban	Assistant Dean for Academic Affairs
Moueen Salameh	Registrar, ex-officio
Salim Kanaan	Director of Admissions, ex-officio
Lokman Meho	University Librarian, ex-officio

## Faculty Administrative Support

Mohamad Fares	System Administrator
Tharwat Haddad	Student Record Officer
Laila Houry	Financial Officer
Wafa Khoury	Executive Officer

## Coordinator of Programs

Lara Nasreddine	Coordinator of Undergraduate Studies, Nutrition and Dietetics Program
Jad Chaaban	Coordinator of Undergraduate Studies, Agri-Business Program
Imad Toufeili	Coordinator of Graduate Studies Program

## Historical Background

Basic university-level courses in agriculture were offered by the School of Arts and Sciences at AUB as early as 1914. Between the 1930s and 1940s, the University fulfilled its commitment to improving the livelihood of the poor through the creation of the Institute of Rural Life. The Institute brought together students and faculty from various university schools and departments to implement improvement projects in rural health, education and farming. The School of Agriculture was established in 1952, along with the Agricultural Research and Education Center (AREC), a 100 hectare facility located the Bekaa, 80 km from the main AUB campus. The School offered a 4-year program leading to a BS degree in Agriculture and the Diploma of *Ingénieur Agricole*, and also a one-year Technical Vocational Training (TVT) course aimed at government extension agents from 1956 to 1971. These programs contributed greatly to building the capacity of agricultural scientists and technicians from the Middle East region. A graduate program leading to the MS in agriculture was initiated in 1956.

The importance of food and nutrition and their linkage to agriculture was recognized in the late seventies. The School, which had become the Faculty of Agricultural Sciences in 1958, was renamed the Faculty of Agricultural and Food Sciences (FAFS) in 1979, and a 3-year BS program in Nutrition and Dietetics (ND) was initiated in 1980. An eleven-month Dietary Internship program was established at the AUB Medical Center in 1983. The programs proved very successful and grew rapidly to become a significant component of FAFS. Global and regional changes in the role and functions of agriculture, nutrition and food created a demand for new courses. FAFS responded by launching several new programs. The BS program in Landscape Design and Eco-Management was started in 2000 and reflected the mounting significance of landscape and environmental issues. The BS program in Food Sciences and Management was launched in October 2002 in response to the rapid expansion of the agrifood industry in Lebanon and in the region. The rising importance of animal production in the Middle East, and the associated concerns around zoonotic diseases, triggered the initiation of the BS in Veterinary Sciences in October 2008. Lastly, the importance of entrepreneurship and the need to develop efficient and effective food value chains in the region led to the initiation of the Agribusiness program in February 2009.

## Mission

The mission of the Faculty of Agricultural and Food Sciences is to promote, through higher agricultural education, teaching, research, and extension in agriculture, food and nutrition, environment and natural resources, and community and rural development as a basis for sustainable improvement in the lives of people throughout Lebanon, the Middle East region, and the world.

## Vision

The vision of FAFS is to be an institution committed to helping the Middle East region in improving agricultural practices with the aim of approaching self-sufficiency in food production. It is an institution committed to research, development, and the training of dedicated and highly motivated men and women to satisfy the needs of human power resources in the Middle East. FAFS conducts on-campus academic instruction, research through its on-campus facilities and AREC, as well as outreach education, all patterned after the land-grant college system of the USA. In the coming years the Faculty of Agricultural and Food Sciences will develop as a center for excellence in higher agricultural education and research in the areas of sustainable and urban agriculture, environmental sciences related to agriculture and natural resources, arid land agriculture, food quality and safety, and nutrition. These areas are emphasized because they reflect important needs in agricultural education and development in the region we serve.

## Undergraduate Programs

**Six undergraduate programs are offered by FAFS:**

### **BS in Agriculture and the Diploma of *Ingénieur Agricole***

This program is offered by FAFS for training in general agriculture. A limited number of elective credits allow students to select courses from among different disciplines in FAFS for desired areas of emphasis.

## **BS in Landscape Design and Eco-Management and the Diploma of *Ingénieur Agricole***

This is a specialized program offered by FAFS for training students in the design, implementation, and management of landscapes in natural, rural, and urban settings.

## **BS in Nutrition and Dietetics**

This is a specialized three-year program offered by FAFS that prepares graduates trained in nutrition and dietetics to satisfy the needs of the country and the region. The purpose is to enhance the nutritional well-being and health of individuals, families, and populations through the promotion of scholarship in human nutrition and dietetics. Graduates wishing to qualify as licensed dietitians should complete an Internship for a minimum of 6 months in a recognized medical setting. Graduates of this program do not receive the Diploma of *Ingénieur Agricole*.

## **BS in Nutrition and Dietetics (Coordinated Program)**

This is a four year program which will lead to a BSc degree in Nutrition and Dietetics (Coordinated Program). The program combines the three years theoretical learning with an additional year of supervised practice with an emphasis in clinical nutrition practice. The proposed educational framework is based on the knowledge, skills and core competencies established by the Commission on Accreditation for Dietetics Education (CADE) for entry level dietitians. The CP mission statement is based on the beliefs, values and vision conveyed in the American University of Beirut's mission statement, the Department of Nutrition and Food Science's mission statement and strategic plan and is guided by the Standards of Professional Performance for Dietitians set by the American Dietetics Association (ADA) in 2008. The mission of the CP in Dietetics is to equip graduates with the knowledge, expanded skills, and intellectual maturity to become progressive, innovative and inter-professional practitioners in the dietetic profession capable of serving the public through promotion of optimal nutrition, health and wellbeing and to serve the profession and larger community through public service and leadership.

More specifically, the program involves several inter-related dimensions; it is:

- Dedicated to providing quality education that prepares the student for competent practice and current and future roles in the dietetic profession.
- Committed to facilitating the intellectual, personal and professional growth and lifelong learning of students.
- Committed to developing critical thinking, problem solving and leadership skills to prepare students for the challenges of an evolving diverse community and workplace.
- Committed to providing an integration of theory with application of learning through a sequence of supervised practice experiences that encourages student self-evaluation and self direction.
- Dedicated to preparing students with added proficiency in providing nutrition education to a variety of clients.
- Committed to providing an environment for students to conduct research and develop professional attitudes, maturity and an ethical understanding of professional practice, thereby improving the dietetics practice.
- Committed to preparing competent nutrition professionals who perform in adherence with the Code of Ethics for the Profession of Dietetics.

## Goals and Expected Outcomes of the proposed CP in Dietetics

The goals of the CP in dietetics are listed below; each is followed with supporting measurable expected outcomes.

- To provide quality didactic and supervised practice learning experiences that prepare students to be competent entry level dietitians.  
At least 80% of students who enter the CP will successfully complete the program and receive a verification statement within two years of enrolment.
- Over a period of five years, at least 80% of all graduates of the CP who sit for the colloquium/RD exam will pass from the first time.
- At least 90% of responses that evaluate the competencies attained from the CP will meet or exceed a rating of 3 on a 1–5 scale.
- At least 90% of ratings of professional preparation from the CP graduate's view will reach a rating of at least 3 on a 1–5 scale.
- At least 90% of ratings of professional knowledge from the employer's opinion will reach a rating of at least 3 on a 1–5 scale.
- To prepare students who will commit to improving the quality of life of the community through improved health and wellbeing.
- Within five years of graduation from the CP, employment data will demonstrate that at least 70% of all graduates who sought employment will be employed in Lebanon or the Middle East region in a health-related position that requires nutrition expertise.
- To prepare graduates who will be successfully employed in their fields, attend graduate school or pursue other career options.
- At least 80% of CP graduates, who have sought higher education or employment, will pursue an advanced degree or be employed in the field of dietetics within 12 months of graduation.
- At least 80% of employers will indicate that they would hire a graduate of the American University of Beirut CP in Dietetics.

## BS in Food Science and Management

This is a specialized three-year program offered by FAFS to prepare graduates to satisfy the needs of food industries and establishments in the region. Graduates of this program do not receive the Diploma of *Ingénieur Agricole*.

## BS in Veterinary Sciences

This is a specialized three-year program offered by FAFS to graduate students with proper knowledge in animal pathology, veterinary microbiology, animal husbandry, nutrition, breeding and basic knowledge in other veterinary disciplines. Graduates of this program do not receive the Diploma of *Ingénieur Agricole*.

## BS in Agribusiness

The BS in Agribusiness is a three year cross-disciplinary program designed to provide students with comprehensive knowledge of the decision-making processes of business and the technical aspects of modern agriculture and food systems. Graduates of this program do not receive the Diploma of *Ingénieur Agricole*.

## Admission

AUB admits students from both twelve and thirteen-year secondary school systems. Students holding diplomas from a twelve-year secondary school system may gain admission to the Faculty of Agricultural and Food Sciences by completing the freshman program at AUB or its equivalent elsewhere. Those coming from the freshman program should have completed six credits of freshman math and nine credits of natural sciences (CHEM 101, 101L, 102, BIOL 106 except Agribusiness). Students from a thirteen-year secondary school system must hold the Lebanese Baccalaureate Part II in general sciences or life sciences, or the equivalent, if they come from another country. Holders of the Baccalaureate Part II in sociology and economics may be considered for admission (except in Nutrition and Food Sciences and Management) provided they take one additional course, CHEM 102, except Agribusiness students, while holders of Baccalaureate Part II in Humanity may be considered for admission provided they take two additional courses CHEM 102 and MATH 203. Students applying for transfer from another faculty or university must have a minimum grade point average of 70 for Agriculture and Veterinary Sciences, 75 for Agribusiness, for Nutrition, Food Sciences and Management, Landscape Design and Eco- Management to be considered for admission. Admission is by selection of the most promising eligible applicants. For complete and detailed information regarding admission to the University, including recognized certificates, see the admissions section in this catalogue.

## Requirements for BS in Nutrition and Dietetics (Coordinated Program)

Students are first admitted to the three year Nutrition and Dietetics program, in addition, a separate application for the CP must be submitted during the second semester of the senior year (upon completion of at least 81 credits). The selection of students for the CP is based on cumulative average of the didactic program (80 or above, unless stated otherwise by the department), completion of the prerequisite courses as well as personal interviews. Individuals interested in applying to the CP must contact the department for application details at the beginning of the senior year.

A maximum of 20 students are admitted each year. Students applying to the NFSC department for a second BS in Nutrition and Dietetics are not eligible for the CP.

## Requirements for Premedical Study

Students entering the Faculty of Agricultural and Food Sciences, and who intend ultimately to enter the Faculty of Medicine, must complete the premedical requirements as outlined in the admission section under the Faculty of Medicine in the 2010-11 Graduate Catalogue, pages 347-48.

# Graduation Requirements

## Eligibility for Graduation

To be eligible for graduation with the degree of BS in Agriculture (AGRI) or BS in Landscape Design and Eco-Management (LDEM), and the Diploma of *Ingénieur Agricole*, a student must

- complete a minimum of 128 semester credit hours (AGRI) or 139 semester credit hours (LDEM)
- complete a minimum of seven semesters of residency
- achieve an overall minimum grade average of 70
- be approved for graduation by the faculty

To be eligible for graduation with the degree of BS in Nutrition and Dietetics (NTDT) or BS in Food Sciences and Management (FSMT), or BS in Veterinary Sciences (VTSC) or BS in Agribusiness (AGBU) a student must

- complete a minimum of 96 semester credit hours for the NTDT program, 97 semester credit hours for the FSMT program, 102 semester credit hours for the VTSC program, and 96 semester credit hours for the AGBU
- complete a minimum of five semesters of residency
- achieve an overall minimum average grade of 70
- be approved for graduation by the faculty

To be eligible for graduation with the degree of BS in Nutrition and Dietetics (Coordinated Program), a student must

- Successfully complete a minimum of 129 credits hours
- Complete a minimum of 1200 hours of supervised practice in an affiliated hospital
- Achieve an overall minimum average grade of 70 in the didactic courses of the fourth year
- Achieve an overall minimum average grade of 80 in the supervised practice
- Successfully complete the program within one year of enrollment

Failure to meet the above CP graduate requirements will result in dismissal from the CP program in which case, students will graduate with a BS in Nutrition and Dietetics.

For transfer students to the Faculty of Agricultural and Food Sciences from another Faculty or University, course credits pertinent to the agricultural curriculum may be transferred at the discretion of the Academic and Curriculum Committee. However, advanced standing can be considered only for students who transfer from an agriculture program of another recognized institution of higher learning. Transfer students from faculties within AUB to FAFS are allowed to transfer a maximum of two semesters toward the residency requirements at FAFS, based on the rate of equating each 12 credits of transferable courses taken at AUB to one residency semester. For purposes of residency requirements, two summer sessions are equivalent to one semester.

## Minors in Nutrition and Dietetics, and Food Science and Management

The Nutrition and Food Sciences Department offers two minors: A Minor in Nutrition and Dietetics, and a Minor in Food Sciences and Management, with a minimum of 16 credits/program.

Students already working on a bachelor's degree outside Nutrition and Dietetics (ND) or Food Sciences and Management (FSM), and who wish to obtain a minor in ND or FSM, must apply to the relevant Minor before taking any course in the requested minor. The Department of Nutrition and Food Sciences evaluates all applicants for a minor and makes recommendations to the Academic and Curriculum Committee (ACC).

A student is eligible to be considered for a minor in either major after completing 24 credit hours in his/her major with a cumulative grade average of 75.

The courses required for a Minor in Nutrition and Dietetics are NFSC 221, NFSC 222, NFSC 240, NFSC 265, NFSC 274, and NFSC 285. Additional courses may be required from Agriculture and Food Sciences and Management students to replace required courses common to the major and minor.

The courses required for a Minor in Food Sciences and Management are NFSC 265, NFSC 278, NFSC 282, NFSC 288, MNGT 215, and MKTG 210. Additional courses may be required from Agriculture and Nutrition and Dietetics students to replace required courses common to the major and minor.

## Minor in Food Systems

Food security, climate change and depletion of natural resources are now major concerns at the national and global levels. The vital need for sustainable production techniques able to reconcile economic profitability and environmental preservation is exerting an increasing pressure on public policies and agendas. The interdependence of these concerns requires the development of a comprehensive and multidisciplinary approach to food systems.

### Goal

This interdisciplinary minor in Food Systems equips students with the knowledge and skills required to develop a comprehensive view and understanding of the different yet interdependent stages of food systems including food production, processing, marketing, distribution and consumption. Eighteen credit hours are required; 3 credits of each of the majors listed below.

### Learning Outcomes

- Identify key stages of food-products' development.
- Acquire knowledge and practical skills in land preparation, farm irrigation methods and water measurement techniques.
- Develop an awareness of safe working environment and monitoring sustainable practices in livestock and field crops production.
- Determine the usefulness and limitations of various techniques in food production and processing practices and assessing their impact on human health.

- Understand concepts of environmental horticulture and its role in promoting nature conservation.
- Develop marketing and distribution strategies to promote food products.

List of courses for the Minor in Food Systems:

NFSC 220, NFSC 252, LDEM 211, AVSC, 220, AGSC 203 and AGSC 210.

## Minor in Veterinary Sciences

Students wishing to pursue a minor in Veterinary Sciences should take 18 credits. The following courses are required:

AVSC 271 (3 cr.), AVSC 275 (3 cr.), AVSC 241 (3 cr.), AVSC 279 (3 cr.), AVSC 281 (3 cr.)

In addition, students should take 3 extra credits from the following:

AVSC 242 (3 cr.), AVSC 278 (3 cr.), AVSC 280 (3 cr.), AVSC 203 (1 cr.), AVSC 210 (2 cr.), AVSC 213 (4 cr.), AVSC 215 (4 cr.)

Agriculture students who have taken the required AVSC courses will have to compensate for the credits by taking other electives from within AVSC.

## Second BS Degree

To obtain a second BS in Agriculture and the Diploma of *Ingénieur Agricole*, a student must complete all AGRL III and AGRL IV courses, including all FAFS electives and humanities courses.

Applicants who have a BS degree in biology, chemistry, or environmental health do not need to take any additional prerequisite courses. Holders of BS degrees from other majors will be required to

- complete additional prerequisite courses as recommended by the Admissions Committee and approved by the Academic and Curriculum Committee.
- complete at least five terms of residency at FAFS.

To obtain a second BS in Nutrition and Dietetics or Food Sciences and Management, a student must

- complete a minimum of 51 credits while registered in FAFS, including all NTDI II and NTDI III or FSMT II and FSMT III required core courses listed in this catalogue (of which up to 15 credits can be from transferred course credits).
- complete additional prerequisite courses as recommended by the Admissions Committee and approved by the Academic and Curriculum Committee.
- complete at least three semesters of residency at FAFS.

To obtain a second BS in Landscape Design and Eco-Management and Diploma of *Ingénieur Agricole*, a student must

- complete a minimum of 99 credits while registered at FAFS.
- complete all LDEM courses required in the program.

A student with no design background must

- complete all design courses required in the program.
- complete at least 6 terms of residency at FAFS.
- 60 credits of the required 99 credits can be in transferable courses.

To obtain a second BS in Veterinary Sciences a student must

- complete 49 credits of Science core courses offered during the second and third year of the Veterinary Sciences program as listed in the AUB catalogue.
- complete additional pre-requisite courses as recommended by the Admission's Committee and approved by the ACC Committee.
- complete a residency of three semesters, or its equivalent at FAFS.

## Second BS Degree in Agriculture for Agribusiness Students

A candidate with a Bachelor's degree in Agribusiness wishing to obtain a second degree in Agriculture and the Diploma of *Ingenieur Agricole* must complete a minimum of 45 credit hours with a minimum residency period of three semesters, and must complete the following course requirements with a minimum average of 70.

List of courses for Second BS Degree in Agriculture for Agribusiness Students:

**Fall Semester:** BIOL 200, CHEM 200, LDEM 215, AGSC 235, AVSC 275.

**Spring Semester:** AGSC 265, AVSC 226 OR AVSC 281, AGSC 224, AGSC 220, LDEM 227.

**Fall Semester:** AGSC 262, NFSC 221, AGSC 295, Six Credits of AGSC Electives.

FAFS students can transfer their earned residency between the two programs at FAFS.

## Dual Degree

Students may, upon approval of the faculty concerned, complete the requirements for a second degree while registered in another faculty at AUB. In such a case, a student will be granted two degrees at the same time of graduation. If tuition differs, students will pay the higher of the tuitions.

Information about deadlines and applications are available on the following link:  
<http://www.aub.edu.lb/registrar/Documents/pdfdoc/dualdegree.pdf>

## Transfer of Courses

Transfer of basic science courses taken at AUB with a minimum grade of 60 is allowed if these are also required courses in the core programs of FAFS. A minimum grade of 70 is required for transfer of elective courses. Students wishing to transfer one or more required or elective course should submit a written request to the Academic and Curriculum Committee.

## Elective Courses\*

Candidates for the degree of BS in Agriculture must complete twenty one credits of elective courses: nine credits of elective courses in FAFS and twelve credits in the humanities, six credits in social sciences.

Candidates for the degree of BS in Landscape Design and Eco-Management must complete fifteen credits of elective courses: three credits of elective courses in FAFS and twelve credits in humanities.

Candidates for the degrees of BS in Nutrition and Dietetics and BS in Food Sciences and Management must complete a minimum of twelve credits in humanities.

Candidates for the degree of BS in Veterinary Sciences must complete twelve credits in humanities and six in Social Sciences.

Candidates for the degree of BS in Agribusiness must complete twelve credits in humanities.

## Academic Rules and Regulations

Changes made after the publication of this catalogue will be available through academic advisers or coordinators.

Please refer to pp. 47-63 General University Academic Information in this catalogue for information on the following: maximum course loads (under Credit Loads), dismissal from the faculty and readmission, classes and laboratories (under Attendance), incomplete grades (under Incompletes), examinations and quizzes (under Attendance), withdrawal from courses, students not working for a degree (under Categories of Students), repeating courses, placement on academic probation, and removal from academic probation.

Students enrolled in the BS in Nutrition and Dietetics (Coordinated Program), should refer to the Nutrition and Dietetics Coordinated Program Student Handbook for program's specified policies and procedures.

\* Elective Courses are outlined in General University Academic Information

## Classification and Promotion

### **BS in Agriculture or in Landscape Design and Eco-Management and Diploma of *Ingénieur Agricole***

For clear promotion from year I to year II a student must complete a minimum of twenty seven credits. For promotion from year II to year III a student must complete a minimum of fifty eight credits. For promotion from year III to year IV a student must complete a minimum of ninety eight credits. All such credits should be from courses specified in the regular program.

### **BS in Landscape Design and Eco-Management and Diploma of *Ingénieur Agricole***

For clear promotion from year I to year II a student must complete a minimum of thirty three credits. For promotion from year II to year III a student must complete a minimum of sixty nine credits. For promotion from year III to year IV a student must complete a minimum of one hundred and seven credits. All such credits should be from courses specified in the regular program.

### **BS in Nutrition and Dietetics or in Food Science and Management**

For clear promotion from year I to year II a student must complete a minimum of thirty credits. For promotion from year II to year III a student must complete a minimum of sixty three credits. All such credits should be from courses specified in the regular program.

### **BS in Veterinary Sciences**

For clear promotion from year I to year II a student must complete a minimum of thirty credits. For promotion from year II to year III a student must complete a minimum of sixty nine credits. All such credits should be from courses specified in the regular program.

### **BS in Agribusiness**

For clear promotion from year I to year II a student must complete a minimum of thirty credits. For promotion from year II to year III a student must complete a minimum of sixty credits. All such credits should be from courses specified in the regular program.

## Eligibility for the Regular AREC Program

To be eligible to enroll in the regular program at AREC during the third year of Agriculture or Landscape, a student must

- complete a minimum of fifty eight credits by the end of the first semester of Agriculture III with a cumulative grade average >70
- not have accumulated more than twelve credits of failed-missed courses (of which no more than six credits are in failed courses) specified in the regular program
- be approved for such action by the Academic and Curriculum Committee

# Curriculum for the BS Degree in Agriculture and Diploma of *Ingénieur Agricole*<sup>1</sup>

## Agriculture I

First Semester			Credits
AGSC	201	Orientation to Agriculture and Food Systems	2
BIOL	200	Diversity for Life	4
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
CMPS	209	Computers and Programming for the Sciences	3
			<b>Total 14</b>

Second Semester			Credits
ARAB	Arabic Communication Skills <sup>2</sup>		3
CHEM	208	Survey of Organic Chemistry	3
ENGL	203	Academic English	3
AGSC	212	Microeconomics Theory of Food and Farming <sup>3</sup>	3
MATH	201 or	Calculus and Analytic Geometry III or	3
MATH	204	Mathematics for Social Sciences II	
			<b>Total 15</b>

## Agriculture II

First Semester			Credits
AVSC	243	Genetics	3
AGSC	215	Introduction to Soils	3
AGSC	241	Farm Management	3
NFSC	261	Introductory Biochemistry <sup>4</sup>	3
AGSC	220	Principles of Plant Physiology	3
			<b>Total 15</b>

Second Semester			Credits
AGSC	225	Rural Social Systems in Agricultural and Rural Development	3
AGSC	265	Soil Fertility	3
AVSC	224	Agricultural Microbiology	3
ENGL	204	Advanced Academic English	3
STAT	210	Elementary Statistics for the Sciences	3
			<b>Total 15</b>

1 A minimum of 128 credits required for graduation

2 The Arabic Placement Test is optional

3 Course offered in fall and spring

4 Course offered in spring and fall

## Agriculture III

First Semester			Credits
AVSC	271	Animal Nutrition	3
AVSC	275	Anatomy and Physiology of Farm Animals	3
AGSC	221	Principles of Entomology	3
AGSC	232	Principles of Plant Pathology	3
Humanities Elective			3
			<b>Total 15</b>

Second Semester (AREC)			Credits
AGSC	222	Farm Practices	1
AVSC	222	General Livestock Production <sup>5</sup>	3
AGSC	228	Irrigation Principles	3
AGSC	231	Principles of Agronomy	3
AGSC	224	General Horticulture	3
AGSC	284	Weed Science	3
			<b>Total 16</b>

Summer Session (AREC)			Credits
AGSC	223	Agricultural Project	2
AVSC	226	Poultry Production <sup>6</sup>	3
AGSC	226	Farm Power and Machinery	3
			<b>Total 8</b>

## Agriculture IV

First Semester			Credits
AGSC	235	Agricultural Extension in Development	2
NFSC	221	Basic Nutrition	3
NFSC	288	Technology of Food Products	3
Social Science			3
Humanities Elective			3
			<b>Total 14</b>

Second Semester			Credits
AGSC	296	Agriculture Project Presentation <sup>7</sup>	1
Electives in FAFS			9
Humanities Electives			6
			<b>Total 16</b>

<sup>5</sup> Offered interchangeable

<sup>6</sup> Offered interchangeable

<sup>7</sup> Course offered spring and fall

# Curriculum for the BS Degree in Landscape Design and Eco-Management, and Diploma of *Ingénieur Agricole*<sup>8</sup>

## Year I

First Semester			Credits
ARCH	100	Basic Design	4
LDEM	200	Landscape Technical Drawing	4
LDEM	209	Plant Biology	4
ENGL	203	Academic English	3
Humanities Elective			3
			<b>Total 18</b>

Second Semester			Credits
ARCH	112	Descriptive Drawing	3
LDEM	202	Landscape Design I	6
LDEM	211	Landscape Horticulture I	3
ENGL	204	Advanced Academic English	3
Humanities Elective			3
			<b>Total 18</b>

Summer Session			Credits
Social Science			3
LDEM	250	Computer Aided Design	3
			<b>Total 6</b>

## Year II

First Semester			Credits
LDEM	215	Introduction to Landscape Pests	3
LDEM	216	Landscape Design II	6
LDEM	217	Soils in the Landscape	3
CHEM	202	Introduction to Environmental Chemistry	3
MATH	204	Mathematics for Social Sciences II	3
			<b>Total 18</b>

Second Semester			Credits
LDEM	246	Landscape Design III	6
LDEM	212	Landscape Horticulture II	3
BIOL	252	Ecology	4
ARAB	Arabic Communication Skills <sup>9</sup>		3
			<b>Total 16</b>

## Year III

First Semester			Credits
LDEM	204	Ecological Landscape Design I	6
LDEM	290	Professional Practice	3
LDEM	203	The Environment and Sustainable Development	3
Humanities Elective			3
			<b>Total 15</b>

Second Semester (AREC)			Credits
LDEM	228	Ecological Landscape Design II	6
LDEM	263	Landscape Appreciation	3
LDEM	265	Landscape Management	3
LDEM	245	Irrigation Methods for Landscape Design	3
AGSC	227	Surveying and Irrigation Principles	1
			<b>Total 16</b>

## Year IV

First Semester			Credits
LDEM	241	Final Year Project: Landscape Design	6
LDEM	230	Water in the Environment	3
LDEM	295	Landscape Seminar	1
MNGT	215	Management of Organizations	3
Humanities Elective			3
			<b>Total 16</b>

Second Semester			Credits
LDEM	242	Final Year Project: Landscape Implementation and Management	6
LDEM	227	Applied Plant Protection in Landscape	3
LDEM	296	Landscape Seminar	1
STAT	210	Elementary Statistics for the Sciences	3
FAFS Electives			3
			<b>Total 16</b>

# Curriculum for the BS Degree in Nutrition and Dietetics<sup>10</sup>

## Nutrition and Dietetics I

First Semester			Credits
BIOL	201	General Biology I	4
CHEM	208	Survey of Organic Chemistry	3
CHEM	209	Introductory Organic Laboratory	2
ENGL	203	Academic English	3
NFSC	221	Basic Nutrition <sup>11</sup>	3
			<b>Total 15</b>

Second Semester			Credits
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
NFSC	261	Introductory Biochemistry <sup>12</sup>	3
PHYL	246	Physiology for Nursing Degree Students and Undergraduates	4
SOAN	201	Introduction to the Study of Society	3
			<b>Total 15</b>

## Nutrition and Dietetics II

First Semester			Credits
AGSC	212	Microeconomics Theory of Food and Farming <sup>13</sup>	3
ARAB	Arabic Communication Skills <sup>14</sup>		3
ENGL	204	Advanced Academic English	3
NFSC	240	Nutrition Status Assessment	2
NFSC	274	Human Nutrition	3
Humanities Elective			3
			<b>Total 17</b>

<sup>10</sup> A minimum of 96 credits required for graduation

<sup>11</sup> Course offered in spring and fall

<sup>12</sup> Course offered in spring and fall

<sup>13</sup> Course offered in spring and fall

<sup>14</sup> The Arabic Placement Test is optional

<b>Second Semester</b>			<b>Credits</b>
CMPS	209	Computers and Programming for the Sciences	3
MNGT	215	Management of Organizations	3
NFSC	265	Food Chemistry <sup>15</sup>	3
NFSC	267	Food Analysis <sup>16</sup>	2
NFSC	285	Nutrition in the Life Cycle	3
Humanities Elective			3
			<b>Total 17</b>

### Nutrition and Dietetics III

<b>First Semester</b>			<b>Credits</b>
EDUC	227	Statistics in Education or STAT 210	3
NFSC	222	Community Nutrition	3
NFSC	277	Food Microbiology	3
NFSC	292	Medical Nutrition Therapy I	3
NFSC	294	Medical Nutrition Therapy Lab I	1
Humanities Elective			3
			<b>Total 16</b>

<b>Second Semester</b>			<b>Credits</b>
NFSC	287	Food Processing	2
NFSC	289	Food Processing Lab	1
NFSC	290	Food Services Management	3
NFSC	293	Medical Nutrition Therapy II	3
NFSC	295	Medical Nutrition Therapy Lab II	1
NFSC	296	Current Topics in Food Sciences and Nutrition <sup>17</sup>	1
NFSC	299	Projects in Nutrition and Food Sciences <sup>18</sup>	2
Humanities Elective			3
			<b>Total 16</b>

<sup>15</sup> Course offered in spring and fall

<sup>16</sup> Course offered in spring and fall

<sup>17</sup> Course offered in spring and fall

<sup>18</sup> Course offered in spring and fall

## Curriculum for the BS Degree in Nutrition and Dietetics (Coordinated Program)<sup>19</sup>

The first three years of the program are similar to those of the Nutrition and Dietetics program. In addition, the fourth year includes the below courses:

### Nutrition and Dietetics (CP) IV

First Semester			Credits
NFSC	283	Nutrition Education and Communication	3
NFSC	284 A	Seminar in Clinical Dietetics	1
NFSC	298F	Dietetic Practicum (not billed)	14
			<b>Total 18</b>
Second Semester			Credits
NFSC	284 B	Seminar in Clinical Dietetics	1
NFSC	298S	Dietetic Practicum (not billed)	14
			<b>Total 15</b>

## Curriculum for the BS Degree in Food Science and Management<sup>20</sup>

### Food Science and Management I

First Semester			Credits
BIOL	200	Diversity of Life	4
CHEM	208	Brief Survey of Organic Chemistry	3
CHEM	209	Introductory Organic Laboratory	2
ENGL	203	Academic English	3
MATH	204	Mathematics for Social Sciences II	3
			<b>Total 15</b>
Second Semester			Credits
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
ENGL	204	Advanced Academic English	3
AGSC	212	Microeconomics Theory of Food and Farming <sup>21</sup>	3
NFSC	221	Basic Nutrition <sup>22</sup>	3
Humanities Elective			3
			<b>Total 17</b>

<sup>19</sup> A minimum of 129 credits required for graduation

<sup>20</sup> A minimum of 97 credits required for graduation

<sup>21</sup> Course offered in spring and fall

<sup>22</sup> Course offered in spring and fall

## Food Science and Management II

First Semester			Credits
EDUC	227	Statistics in Education	3
MNGT	215	Management of Organizations	3
NFSC	261	Introductory Biochemistry <sup>23</sup>	3
NFSC	265	Food Chemistry <sup>24</sup>	3
NFSC	267	Food Analysis <sup>25</sup>	2
NFSC	277	Food Microbiology I	3
			<b>Total 17</b>

Second Semester			Credits
ACCT	210	Financial Accounting	3
ARAB	Arabic Communication Skills <sup>26</sup>		3
CMPS	209	Computers and Programming for the Sciences	3
NFSC	272	Introduction to Food Service and Industries	2
NFSC	278	Food Microbiology II	3
Humanities Elective			3
			<b>Total 17</b>

Summer Session			Credits
NFSC	280	Summer Training in Food Establishments	1
			<b>Total 1</b>

## Food Science and Management III

First Semester			Credits
ACCT	215	Management Accounting	3
NFSC	282	Food Quality Management	3
NFSC	288	Technology of Food Products	3
FINA	210	Business Finance	3
Humanities Elective			3
			<b>Total 15</b>

Second Semester			Credits
MKTG	210	The Marketing Function	3
NFSC	287	Food Processing	2
NFSC	289	Food Processing Lab	1
NFSC	291	Elements of Food Engineering	3
NFSC	296	Current Topics in Food Sciences and Nutrition <sup>27</sup>	1
NFSC	299	Projects in Nutrition and Food Sciences <sup>28</sup>	2
Humanities Elective			3
			<b>Total 15</b>

<sup>23</sup> Course offered in spring and fall

<sup>24</sup> Course offered in spring and fall

<sup>25</sup> Course offered in spring and fall

<sup>26</sup> The Arabic Placement Test is optional

<sup>27</sup> Course offered in spring and fall

<sup>28</sup> Course offered in spring and fall

## Curriculum for the BS Degree in Veterinary Sciences<sup>29</sup>

### Veterinary Sciences I

First Semester			Credits
BIOL	200	Diversity of Life	4
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
CMPS	209	Computers and Programming for the Sciences	3
Humanities Electives			3
			<b>Total 15</b>

Second Semester			Credits
MATH	201 or 204	Calculus and Analytic Geometry II or Mathematics for Social Sciences II	3
CHEM	208	Survey of Organic Chemistry	3
ENGL	203	Academic English	3
AVSC	224	Agricultural Microbiology	3
Humanities Electives			3
			<b>Total 15</b>

### Veterinary Sciences II

First Semester			Credits
ENGL	204	Advanced Academic English	3
PHYS	204	Classical Physics for Life Sciences	3
PHYS	204L	Classical Physics for Life Sciences Laboratory	1
ARABIC	Arabic Communication Skills <sup>30</sup>		3
AVSC	275	Anatomy and Physiology of Animals	3
AVSC	243	Genetics	3
			<b>Total 16</b>

Second Semester			Credits
AVSC	203	History of Veterinary Medicine	1
NFSC	261	Introductory Biochemistry (Biochemistry I)	3
AVSC	271	Animal Nutrition	3
AVSC	210	Applied Ethology	2
Social Sciences			6
			<b>Total 15</b>

<sup>29</sup> A minimum of 102 credits required for graduation

<sup>30</sup> The Arabic Placement Test is optional

<b>Summer Session (At AUB Campus and/or AREC)</b>			<b>Credits</b>
NURS	210	Pathophysiology	2
AVSC	226	Poultry Production <sup>31</sup>	3
Humanities Electives			3
			<b>Total 8</b>

## Veterinary Sciences III

<b>First Semester</b>			<b>Credits</b>
AVSC	213	Comparative Vertebrate Anatomy	4
AGSC	220	Principles of Plant Physiology	3
PHRM	240	Pharmacology and Therapeutics	3
HUMR	246	Human Morphology for Paramedical Students	3
AVSC	206	Clinical Diagnostics	2
LABM	201	Clinical Chemistry I	2
			<b>Total 17</b>

<b>Second Semester</b>			<b>Credits</b>
AVSC	215	Veterinary Embryology	4
AVSC	277	Animal Breeding	2
AVSC	222	General Livestock Production <sup>32</sup>	3
LABM	202	Clinical Chemistry II	2
AVSC	299B	Special Topics In Animal Sciences for Veterinary Sci. Program	2
Humanities Electives			3
			<b>Total 16</b>

## Curriculum for the BS Degree in Agribusiness Agribusiness I<sup>33</sup>

<b>First Semester</b>			<b>Credits</b>
AGSC	204	Natural Sciences for Agribusiness	3
AGSC	211	Introduction to Agricultural Issues and Policies	3
CMPS	209	Computers and Programming for the Sciences	3
ENGL	203	Academic English	3
MATH	204	Mathematics for Social Sciences	3
			<b>Total 15</b>

<sup>31</sup> Offered interchangeable

<sup>32</sup> Offered interchangeable

<sup>33</sup> A minimum of 96 credits required for graduation

Second Semester			Credits
ACCT	210	Financial Accounting	3
AGSC	202	Introduction to Land and Water Resources	3
AGSC	203	Crop Production and Protection	3
ARAB	Arabic Communication Skills <sup>34</sup>		3
ENGL	204	Advanced Academic English	3
			<b>Total 15</b>

## Agribusiness II

First Semester			Credits
ACCT	215	Management Accounting	3
AGSC	212	Microeconomics Theory of Food and Farming <sup>35</sup>	3
AGSC	239	Agribusiness Communication Skills Workshop	0
NFSC	252	Food Processing	3
STAT	210	Elementary Statistics for the Sciences	3
Humanities Elective	To be chosen from PHIL 206 or PHIL 209		3
			<b>Total 15</b>

Second Semester			Credits
AGSC	210	Marketing in Agribusiness	3
ECON	212	Elementary Macroeconomic Theory	3
AGSC	253	Harvest and Post-harvest Issues and Strategies	3
AGSC	255	Field Study of the Rural Agro-economy	3
AVSC	220	Livestock Production and Protection	3
			<b>Total 15</b>

Summer Session			Credits
AGSC	229	Entrepreneurship in Agriculture (Theory + Project)	3
AGSC	256	Summer Internship	1
			<b>Total 4</b>

<sup>34</sup> The Arabic Placement Test is optional

<sup>35</sup> Course is offered in spring and fall

## Agribusiness III

First Semester			Credits
AGSC	236	New Trends in Agricultural and Food Systems	3
AGSC	240	Career Planning Workshop for Agribusiness	0
FINA	210	Business Finance	3
DCSN	205	Managerial Decision Making: Models and Techniques	3
MNGT	215	Principles of Management	3
Humanities Elective			3
			<b>Total 15</b>
Second Semester			Credits
AGSC	213	Legal Aspects of Agribusiness	3
AGSC	248	Operation Management for Agribusiness	3
AGSC	292	Agribusiness Final Year Project (capstone course)	5
Humanities Elective			3
Humanities Elective			3
			<b>Total 17</b>
			<b>Total credits 96</b>