



Faculty of Agricultural and Food Sciences (FAFS)

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Historical Background

University-level agricultural education was first initiated at AUB in 1914 when several basic courses in soils, horticulture, animal husbandry, agronomy, and vegetable and citrus fruit growing were offered. Interest in the field, however, was not widespread enough to continue this offering and it was phased out by the late 1920s. In 1930 the Institute of Rural Life was established by the University in collaboration with the Near East Foundation. The Institute kept the faculty and students of AUB in touch with the situation existing in the rural districts and stimulated their interest in improving the agricultural, health, and social conditions in rural areas. At the same time the Institute was cooperating with the Schools of Medicine and Nursing in conducting rural health programs in several villages in the Beka'a. The above work constituted one of the earliest agricultural extension activities carried out in the Middle East. During World War II the work of the Institute was severely curtailed until it was phased out in 1947.

The resurgence of true university-level education in agriculture took place in 1950. Participation in agricultural education was a necessary condition to allow AUB to benefit from the financial support of the US Technical Cooperation Administration. Through a grant from the Ford Foundation the School of Agriculture was established in 1952. A 100-hectare farm located 80 kilometers east of Beirut in the Beka'a was also purchased. The Agricultural Research and Education Center (AREC) includes a research farm, staff residences, classrooms, a small library, laboratories, men and women's dormitories, a dining hall, and recreational facilities. Facilities at AREC are used for teaching, research, and extension. Originally two programs were planned for agriculture: a four-year curriculum leading to the degree of BS in Agriculture and the Diploma of Ingénieur Agricole, and a one-year non-degree course in vocational education known as Technical Vocational Training (TVT). The first class consisting of twenty three students graduated with BS degrees in 1956. In that same year a graduate program leading to the MS degree in agriculture with various specializations was initiated and the first MS was granted in 1958.

The TVT program, which was intended for training government extension agents from the region, was initiated in 1956 and discontinued in 1971. A total of 425 men were trained in this program. The name of the school was changed to the Faculty of Agricultural Sciences in 1958. During the late seventies, realizing the importance of the role of food in human life, the name of the faculty was changed in 1979 to the Faculty of Agricultural and Food Sciences (FAFS). A new three-year program leading to the degree of BS in Nutrition and Dietetics was initiated in 1980, and the first group of students graduated in 1983. In addition an eleven month Dietary Internship program was established at the AUB Medical Center,; the first group completed this program in 1984. The Landscape Design and Ecosystem Management Program, a four-year BS program, started in October 2000. The Food Science and Management Program, a 3 year BS Program, started in October 2002. The newest addition to FAFS is the Veterinary Science Program, a three-year BS program, will start in October 2008.

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

Five 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 Ecosystem 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. An internship program of eleven months is available at the AUB Medical Center for high ranking graduates wishing to qualify as professional dietitians. Upon completion of the internship program at AUH students receive a certificate of dietetic internship. Graduates of this program do not receive the Diploma of *Ingénieur Agricole*.

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 Science

This is a specialized three-year program offered by FAFS to graduate students with proper knowledge in 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*.

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. 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 humanities or sociology and economics may be considered for admission provided they take two additional courses, CHEM 101 and MATH 203 (CHEM 200 and MATH 203 for Landscape Design and Ecosystem Management students). Students applying for transfer from another faculty or university must have a minimum grade point average of 70 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 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 2007-08 Graduate Catalogue, pages 319, 320.

Graduation Requirements

Eligibility for Graduation

To be eligible for graduation with the degree of BS in Agriculture or BS in Landscape Design and Ecosystem Management, and the Diploma of *Ingénieur Agricole*, a student must

- complete a minimum of 128 semester credit hours (Agriculture) or 139 semester credit hours (Landscape Design and Ecosystem Management)
- 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 or BS in Food Science and Management, or BS in Veterinary Science a student must

- complete a minimum of 96 semester credit hours for the ND program, 97 semester credit hours for the FSM program, and 110 semester credit hours for the VS program
- complete a minimum of five semesters of residency
- achieve an overall minimum average grade of 70
- be approved for graduation by the faculty

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

Students already working on a bachelor's degree outside Nutrition and Dietetics (ND) or Food Science 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 Science evaluates all applicants for a minor and makes recommendations to the Academic 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 293. Additional courses may be required from Agriculture and Food Science and Management students to replace required courses common to the major and minor.

The courses required for a minor in Food Science and Management are NFSC 265, NFSC 278, NFSC 282, NFSC 288, NFSC 290, 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.

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 Science and Management, a student must

- complete a minimum of 51 credits while registered in FAFS, including all ND II and ND III or FSM II and FSM 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 in the ND program

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

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 four credits of elective courses: twelve credits of elective courses in FAFS and twelve credits in the humanities.

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

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

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

Academic Rules and Regulations

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

Please refer to pp. 48-63 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.

Classification and Promotion

BS in Agriculture or in Landscape Design and Ecosystem 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 Ecosystem 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 Science

For clear promotion from year I to year II a student must complete a minimum of thirty six credits. For promotion from year II to year III a student must complete a minimum of seventy six 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

To be eligible to enroll in the regular program at AREC during the first and second year of Veterinary Sciences, a student must

- complete a minimum of thirty two credits by the end of the second semester of the first year and a minimum of seventy credits by the end of the second semester of the second year of Veterinary Sciences 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*¹

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
			Total 14

Second Semester			Credits
ARAB	201A or 201B, or higher ²		3
CHEM	208	Survey of Organic Chemistry	3
ENGL	203	Academic English	3
AGSC	212	Agricultural Economics, Principles, and Policy	3
MATH	201 or		3
MATH	204		
			Total 15

¹ A minimum of 128 credits are required for graduation.

² Dependent on Arabic Placement Test.

Agriculture II

First Semester			Credits
ANSC	243	Genetics	3
AGSC	215	Introduction to Soils	3
AGSC	241	Farm Management	3
NFSC	261	Introductory Biochemistry	3
AGSC	220	Principles of Plant Physiology	3
			Total 15

Second Semester			Credits
ANSC	224	Agricultural Microbiology	3
AGSC	225	Rural Social Systems	3
ENGL	204	Advanced Academic English	3
NFSC	221	Basic Nutrition	3
STAT	210	Elementary Statistics for the Sciences	3
			Total 15

Agriculture III

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

Second Semester (AREC)			Credits
AGSC	222	Farm Practices	1
ANSC	222	General Livestock Production	3
AGSC	228	Irrigation Principles	3
AGSC	231	Principles of Agronomy	3
AGSC	224	General Horticulture	3
AGSC	284	Weed Science	3
			Total 16

Summer Session (AREC)			Credits
AGSC	223	Agricultural Project	2
ANSC	226	Poultry Production	3
AGSC	226	Farm Power and Machinery	3
			Total 8

Agriculture IV

First Semester			Credits
AGSC	235	Agricultural Extension in Development	2
AGSC	265	Soil Fertility	3
NFSC	288	Technology of Food Products	3
Elective in FAFS			3
Humanities Elective			3
			Total 14

Second Semester			Credits
AGSC	296	Agriculture Project Presentation ³	1
Electives in FAFS			9
Humanities Electives			6
			Total 16

Curriculum for the BS Degree in Landscape Design and Ecosystem Management, and Diploma of *Ingénieur Agricole*⁴

Year I

First Semester			Credits
ARCH	100	Basic Design	4
ARCH	111	Technical Drawing	4
LDEM	209	Plant Biology	4
ENGL	203	Academic English	3
Humanities Elective			3
			Total 18

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
			Total 18

³ Course offered in fall and spring.

⁴ A minimum of 139 credits are required for graduation.

Summer Session			Credits
ACCT	210	Financial Accounting	3
LDEM	250	Computer Aided Design	3
			Total 6

Year II

First Semester			Credits
LDEM	215	Introduction to Landscape Pests	3
LDEM	216	Landscape Design II	6
AGSC	215	Introduction to Soils	3
CHEM	202	Introduction to Environmental Chemistry	3
MATH	204	Mathematics for Social Sciences	3
			Total 18

Second Semester			Credits
LDEM	246	Landscape Design III	6
LDEM	212	Landscape Horticulture II	3
BIOL	252	Ecology	4
ARAB	201A, 201B or higher ⁵		3
AUB Campus Internship			0
			Total 16

Year III

First Semester			Credits
LDEM	204	Ecological Landscape Design I	6
AGSC	290	Project Planning and Appraisal	3
LDEM	203	Environment and Sustainable Development	3
Humanities Elective			3
			Total 15

Second Semester (AREC)			Credits
LDEM	228	Ecological Landscape Design II	6
LDEM	229	Turfgrass Culture, Machinery, and Management	3
AGSC	265	Soil Fertility and Fertilizers	3
LDEM	230	Water in the Environment	3
AGSC	227	Surveying and Irrigation Principles	1
			Total 16

⁵ Dependent on Arabic Placement Test.

Year IV

First Semester			Credits
LDEM	241	Final Year Project: Landscape Design	6
LDEM	245	Irrigation Methods for Landscape Design	3
LDEM	295	Landscape Seminar	1
MNGT	215	Management of Organizations	3
Humanities Elective			3
			Total 16

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
			Total 16

Curriculum for the BS Degree in Nutrition and Dietetics⁶

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 ⁷	3
			Total 15

Second Semester			Credits
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
NFSC	261	Introductory Biochemistry ⁸	3
PHYL	246	Physiology for Nursing Degree Students and Undergraduates	4
SOAN	201	Introduction to the Study of Society	3
			Total 15

⁶ A minimum of 96 credits are required for graduation.

⁷ Course offered in fall and spring.

⁸ Course offered in fall and spring.

Nutrition and Dietetics II

First Semester			Credits
ARAB	201A, 201B or higher ⁹		3
ENGL	204	Advanced Academic English	3
NFSC	240	Nutrition Status Assessment	2
NFSC	265	Food Chemistry	3
NFSC	274	Human Nutrition and Metabolism	3
Humanities Electives			3
			Total 17

Second Semester			Credits
CMPS	209	Computers and Programming for the Sciences	3
AGSC	212	Agricultural Economics, Principles, and Policy	3
MNGT	215	Management of Organizations	3
NFSC	267	Food Analysis ¹⁰	2
NFSC	285	Nutrition in the Life Cycle	3
Humanities Elective			3
			Total 17

Nutrition and Dietetics III

First Semester			Credits
EDUC	227	Statistics in Education or STAT 210	3
NFSC	222	Community Nutrition	3
NFSC	277	Food Microbiology	3
NFSC	292	Therapeutic Nutrition (I)	3
NFSC	294	Therapeutic Nutrition Lab (I)	1
Humanities Elective			3
			Total 16

Second Semester			Credits
NFSC	287	Food Processing	2
NFSC	289	Food Processing Lab	1
NFSC	290	Food Services Management	3
NFSC	293	Therapeutic Nutrition II	3
NFSC	295	Therapeutic Nutrition Lab (II)	1
NFSC	296	Current Topics in Food Sciences and Nutrition	1
NFSC	299	Projects in Nutrition and Food Science	2
Humanities Elective			3
			Total 16

⁹ Dependent on Arabic Placement Test.

¹⁰ Course offered in fall and spring.

Curriculum for the BS Degree in Food Science and Management¹¹

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
			Total 15

Second Semester			Credits
CHEM	200	Basic Chemistry	3
CHEM	205	Introductory Chemistry Laboratory	2
ENGL	204	Advanced Academic English	3
AGSC	212	Agricultural Economics, Principles, and Policy	3
NFSC	221	Basic Nutrition ¹²	3
Humanities Elective			3
			Total 17

Food Science and Management II

First Semester			Credits
EDUC	227	Statistics in Education	3
MNGT	215	Management of Organizations	3
NFSC	261	Introductory Biochemistry ¹³	3
NFSC	265	Food Chemistry	3
NFSC	277	Food Microbiology I	3
			Total 15

Second Semester			Credits
ACCT	210	Financial Accounting	3
ARAB	201A, 201B	or higher ¹⁴	3
CMPS	209	Computers and Programming for the Sciences	3
NFSC	267	Food Analysis ¹⁵	2
NFSC	272	Introduction to Food Service and Industries	2
NFSC	278	Food Microbiology II	3
			Total 16

¹¹ A minimum of 97 credits are required for graduation.

¹² Course offered in fall and spring.

¹³ Course offered in fall and spring.

¹⁴ Dependent on Arabic Placement Test.

¹⁵ Course offered in fall and spring.

Summer Session			Credits
NFSC	280	Summer Training in Food Establishments	1
			Total 1

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
NFSC	291	Elements of Food Engineering	3
FINA	210	Business Finance	3
Humanities Elective			3
			Total 18

Second Semester			Credits
MKTG	210	The Marketing Function	3
NFSC	287	Food Processing	2
NFSC	289	Food Processing Lab	1
NFSC	296	Current Topics in Food Science and Nutrition ¹⁶	1
NFSC	299	Projects in Nutrition and Food Science	2
Humanities Elective			6
			Total 15

Curriculum for the BS Degree in Veterinary Science¹⁷

Veterinary Science I

First Semester			Credits
BIOL	201	General Biology I	4
CHEM	201	Chemical Principles	3
CHEM	205	Introductory Chemistry Laboratory	2
PHYS	204	Classical Physics for Life Sciences	3
PHYS	204 L	Classical Physics for Life Sciences Laboratory	1
MATH	201 or 204	Calculus and Analytic Geometry II or Mathematics for Social Sciences II	3
			Total 16

¹⁶ Course offered in fall and spring.

¹⁷ A minimum of 110 credits are required for graduation.

Second Semester			Credits
BIOL	202	General Biology II	4
CHEM	211	Organic Chemistry I	3
AGSC	220	Principles of Plant Physiology	3
ENG	203	Academic English	3
Humanities			3
			Total 16

Summer Session (AREC)			Credits
VET	201	Microbiology I+II (Bacteriology and Virology)	2
VET	202	Animal Breeding and Genetics I	2
			Total 4

Veterinary Science II

First Semester			Credits
ENG	204	Advanced Academic English	3
CHEM	212	Organic Chemistry II	3
BIOL	247	Animal Physiology	4
ARABIC	201	A, B or Higher	3
Humanities			3
			Total 16

Second Semester			Credits
VET	203	History of Veterinary Medicine	1
NFSC	261	Introductory Biochemistry (Biochemistry I)	3
BIOL	242	Comparative Vertebrate Anatomy	4
VET	204	Pathology I	2
CHEM	210	Organic Laboratory for non majors	2
Social Sciences			6
			Total 18

Summer Session (AREC)			Credits
NURS	310	Pathophysiology	2
VET	205	Topographic and Applied Anatomy	2
VET	206	Clinical Diagnostics	2
			Total 6

Veterinary Science III

First Semester			Credits
VET	207	Microbiology III (Veterinary Immunology)	2
VET	208	Animal Breeding and Genetics II	2
BIOL	284	Developmental Biology	4
PHRM	240	Pharmacology and Therapeutics	3
CMPS	209	Computers and Programming for the Sciences	3
Humanities			3
			Total 17

Second Semester			Credits
HUMR	209	Basic Histology	6
BIOL	249	Parasitology	4
VET	209	Animal Nutrition + Dietetics I	2
VET	210	Applied Ethology	2
Social Sciences			3
			Total 17