

# Department of Animal and Veterinary Sciences (AVSC)

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 Professors: Barbour, Elie; Farran, Mohamad;  
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## Graduate Programs

The department offers two graduate programs of study and research leading to MS degrees in animal science and poultry science. The candidates have the choice of selecting a thesis or non-thesis program. The non-thesis candidate is required to take additional credits, and his/her research will be normally more field-oriented, with a research report presented instead of a thesis. The department is especially qualified and equipped for graduate study and research in the following areas:

- nutrition of livestock and poultry
- diseases of livestock and poultry, including preventive immunology and the epizootiology of diseases
- production of milk, meat, and eggs as related to breeding and feeding

Graduate students in the department may become candidates for a degree in the interfaculty program in nutrition by meeting the requirements described on pages 421, 422 of this catalogue.

The main function of the Animal and Veterinary Sciences Department is to produce qualified graduates capable of serving the region in all areas of animal science, including research, services, business, and education.

## MS in Animal Science

### Core Courses for the MS Degree in Animal Science\*

**AGSC 301 Statistical Methods in Agriculture 2.3; 3 cr.**  
 An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. *Prerequisites: STAT 210 and CMPS 209. Fall and spring.*

**AVSC 304 Preventive Immunology and Patterns of Animal Diseases 3.0; 3 cr.**  
 Basic aspects of specific and non-specific body defense mechanisms and the role of vaccination in population protection; study of the patterns of diseases. *Prerequisite: BIOL 224 or AGRL 224.*

**AVSC 306 Diseases of Livestock 3.0; 3 cr.**  
 Etiology, clinical characteristics, identification, and control of some selected infectious and metabolic diseases of economic impact on animal production.

**AVSC 330 Advanced Livestock Production 3.0; 3 cr.**  
 Recent advances in livestock production practices as related to interactions between animal and milieu with reference to the specific nutritional and climatic conditions of the Middle East.

**AVSC 336 Ruminant Nutrition 3.0; 3 cr.**  
 Recent advances in the nutrition of cattle, sheep and goats with reference to microbiological aspects of digestion and its relation to practical feeding.

**AVSC 388 Animal Production and Environmental Management 3.0; 3 cr.**  
 Characterizes the impact of extensive and intensive livestock systems on the environmental sustainability of the two systems in terms of technical constraints and feasible corrective environmental management strategies.

**AVSC 395 Graduate Seminar in Animal Science 1.0; 1 cr.**

**AVSC 399 MS Thesis**

### Elective Courses for the MS Degree in Animal Science

**AVSC 300 Graduate Tutorial 1-3 cr.**  
 Special problem. *Prerequisite: consent of instructor.*

**AVSC 305 Poultry Diseases 3.0; 3 cr.**  
 Etiology, clinical characteristics, identification, prevention, and control of the major infectious and metabolic diseases of poultry.

**AVSC 307 Poultry Production in Warm Regions 3.0; 3 cr.**  
 Recent advances in poultry production practices under high temperature conditions with special emphasis on physiology of heat stress in birds as related to housing, management, and feeding. *Prerequisite: AVSC 226.*

**AVSC 329 Advanced Animal Physiology 2.3; 3 cr.**  
 Comparative physiology of domestic animals with special emphasis on digestion, reproduction, lactation, and thermo-regulation. *Prerequisite: AVSC 275 or equivalent.*

**AVSC 334 Advanced Poultry Nutrition 2.3; 3 cr.**  
 Recent developments in poultry nutrition; design and implementation of poultry nutrition experiments. *Prerequisite: AVSC 271.*

## MS in Poultry Science

### Core Courses for the MS Degree in Poultry Science

<b>AGSC 301</b>	<b>Statistical Methods in Agriculture</b>	<b>2.3; 3 cr.</b>
An investigation of the statistical techniques needed to design experiments and analyze and interpret agricultural research data. <i>Prerequisites: STAT 210 and CMPS 209. Fall and spring.</i>		
<b>AVSC 304</b>	<b>Preventive Immunology and Patterns of Animal Diseases</b>	<b>3.0; 3 cr.</b>
Basic aspects of specific and non-specific body defense mechanisms and the role of vaccination in population protection; study of the patterns of diseases. <i>Prerequisite: BIOL 224 or AGRL 224.</i>		
<b>AVSC 305</b>	<b>Poultry Diseases</b>	<b>3.0; 3 cr.</b>
Etiology, clinical characteristics, identification, prevention, and control of the major infectious and metabolic diseases of poultry.		
<b>AVSC 307</b>	<b>Poultry Production in Warm Regions</b>	<b>3.0; 3 cr.</b>
Recent advances in poultry production practices under high temperature conditions with special emphasis on physiology of heat stress in birds as related to housing, management, and feeding. <i>Prerequisite: AVSC 226.</i>		
<b>AVSC 334</b>	<b>Advanced Poultry Nutrition</b>	<b>2.3; 3 cr.</b>
Recent developments in poultry nutrition; design and implementation of poultry nutrition experiments. <i>Prerequisite: AVSC 271.</i>		
<b>AVSC 388</b>	<b>Animal Production and Environmental Management</b>	<b>3.0; 3 cr.</b>
Characterizes the impact of extensive and intensive livestock systems on the environmental sustainability of the two systems in terms of technical constraints and feasible corrective environmental management strategies.		
<b>AVSC 395</b>	<b>Graduate Seminar in Animal Science</b>	<b>1.0; 1 cr.</b>
<b>AVSC 399</b>	<b>MS Thesis</b>	

### Elective Courses for the MS Degree in Poultry Science

<b>AVSC 300</b>	<b>Graduate Tutorial</b>	<b>1–3 cr.</b>
Special problem. <i>Prerequisite: consent of instructor.</i>		
<b>AVSC 306</b>	<b>Diseases of Livestock</b>	<b>3.0; 3 cr.</b>
Etiology, clinical characteristics, identification, and control of some selected infectious and metabolic diseases of economic impact on animal production.		
<b>AVSC 329</b>	<b>Advanced Animal Physiology</b>	<b>2.3; 3 cr.</b>
Comparative physiology of domestic animals with special emphasis on digestion, reproduction, lactation, and thermo-regulation. <i>Prerequisite: AVSC 275 or equivalent.</i>		

<b>AVSC 330</b>	<b>Advanced Livestock Production</b>	<b>3.0; 3 cr.</b>
Recent advances in livestock production practices as related to interactions between animal and milieu with reference to the specific nutritional and climatic conditions of the Middle East.		
<b>AVSC 336</b>	<b>Ruminant Nutrition</b>	<b>3.0; 3 cr.</b>
Recent advances in the nutrition of cattle, sheep and goats with reference to microbiological aspects of digestion and its relation to practical feeding.		