

AGRICULTURE

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Faculty

Thomas N. Chittick, *Chair*
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BS: Animal Science

Major requirements—40

AGRI405; ANSI114, 305, 425, plus 19–21 credits in a special area of emphasis and 6–10 major electives chosen in consultation with an advisor.

Cognate requirements—18

BIOL165, 166; CHEM131, 132

Animal Science Areas of Emphasis

Students may choose an area of emphasis from the following or develop a personalized program in consultation with their advisor to meet specific career goals.

Pre-Veterinary Medicine—22

AGRI137(2); ANSI340 (1 species), ANSI379, 420, 435, 440 and 445

Recommended electives for entry into veterinary college:

* BCHM421, 422; CHEM231, 232; MATH166, 167; PHYS141, 142.

* Courses may vary depending on entrance requirements of the veterinary college of choice.

Management—19

AGRI137 (2), 395; ANSI340 (2 species); ACCT121; AGRI270.

Programs

Bachelor of Science. The BS degree prepares individuals to pursue advanced degrees for careers in teaching or research. Students may major in agriculture, animal science or horticulture with a minor to complement their intended purpose.

Bachelor of Technology. The BT degree is a career specialist's degree. Graduates are prepared for supervisory and management positions in production agriculture, horticulture, or the ornamental horticulture industry.

Associate of Technology. The two-year AT degree programs provide students with adequate skills and working knowledge to apply for entry-level positions in their area of specialization.

BS: Agriculture

Major requirements—40

AGRI118, 206, 300, 304, 308, 405; ANSI114; HORT105, plus 15 major elective credits chosen in consultation with advisor.

Cognate requirements—18

BIOL165,166; CHEM131, 132

BT: Horticulture**Major requirements—60**

AGRI118, 240, 308, 405; HORT105, 135, 226, 228, 315, 346, 378, plus 17–18 credits in a special area of emphasis, and 7–8 major elective credits chosen in consultation with advisor.

Cognate requirement—4

CHEM110

Horticulture Areas of Emphasis in BT Degree Programs

Students may choose an area of emphasis from the following or develop a personalized program in consultation with their advisor to meet specific career goals.

Landscape Design—16

HORT350, 365, 375, 429, 448. The landscape design program emphasizes the development of technical drawing skills, an understanding of the principles of design, and a knowledge of plant material.

Landscape Management—17

HORT208, 211, 217. Select 9 credits from the following: HORT212, 350, 359, 360, 375. The landscape management emphasis features proper horticultural practice, identification of landscape plants, selection of appropriate equipment, and the concept of total maintenance.

AT: Agriculture**Major Requirements—25-36**

ANSI114, 305, 340, plus 15-24 credits in a special area of emphasis (see below) and 1–2 major elective credits chosen in consultation with advisor.

Agriculture Program Emphasis in Associate Degree Programs

Students may choose an area of emphasis from the following or develop a personalized program in consultation with their advisor to meet specific career goals.

Crop Production—24

AGRI118, 206, 240, 300, 395; HORT105

Cognate requirement—4

CHEM110

Dairy Herd Management—25

AGRI270, 304, 395; ANSI250, 278, 430, 440

Cognate requirements—4

CHEM110

Veterinary Assistant—15

AGRI395; ANSI240, 379, 420

Cognate requirements—15

CHEM110; CLSC101, 102, 230, 250, 260

AT: Horticulture**Major requirements—35**

AGRI118, 405; HORT105, plus 13–16 credits in a special area of emphasis (see below) and 8–11 major elective credits chosen in consultation with advisor.

Cognate requirement—4

CHEM110

Horticulture Program Emphases in Associate Degree Programs

Students may choose an area of emphasis from the following or develop a personalized program in consultation with their advisor to meet specific career goals.

Landscape Design—13

HORT135, 226, 228, 350

Landscape Management—16

HORT208, 211, 217, 226, 228, 346

Minors in Agriculture, Animal Science or Horticulture—20

Selected from AGRI, ANSI or HORT courses in consultation with advisor.

Pre-Professional Program in Veterinary Medicine

Katherine Koudele, *Director*

(269) 471-6299

Entrance requirements vary among the colleges of veterinary medicine. Therefore, interested students must write to the schools of choice for the most current and detailed information. A list of accredited colleges of veterinary medicine may be obtained from the American Veterinary Medical Association, 930 North Meacham Road, Schaumburg, IL 60196; <http://www.avma.org>.

Students in consultation with their advisors in the Agriculture Department can design individualized programs of study to meet the entrance requirements of the veterinary school of choice. The required prerequisite pre-veterinary courses are usually general biology, general and organic chemistry, physics, biochemistry, mathematics, courses in animal science, and general education.

Courses

(Credits)

See inside front cover for symbol code.

AGRICULTURE**AGRI118**

\$ (4)

Soil Science

Factors affecting soil formation, soil texture, particle size, pore space and their impact on soil air/water relations, and chemical characteristics of soils, including pH, ion exchange, and maintenance of soil fertility. Weekly: 3 lectures and a 3-hour lab. *Spring*

AGRI137

(1-3)

Practicum in _____

Fifty hours per credit of supervised practical experience in one area of concentration. May be repeated in different areas for a maximum of 6 credits. Topics to be chosen in consultation with an advisor. *Fall, Spring*

AGRI206

\$ Alt (3)

Farm Machinery

Selection and operation of farm equipment, based on the initial cost and economic performance, including factors governing the site and type of farm machines, their capacity, efficient use, adjustment and repair. Weekly: 2 lectures and a 3-hour lab. *Fall*

AGRI240 **Alt (3)**

Fundamentals of Irrigation

Design, installation, drawing, interpretation and maintenance of plastic or metal irrigation systems and control devices for proper sprinkler coverage. *Fall*

AGRI270 **Alt (3)**

Management of Agriculture Enterprises

An introduction to acquiring and analysis of management information for decision making; an understanding of basic economic principles that impact biological production systems and implementation of the principles for total quality management for increased productivity. *Fall*

AGRI300 **Alt (3)**

Field Crop Production

Importance, distribution, economic adaptation, and botany of leading farm crops, emphasizing rotation, seedbed preparation, and economic production. *Spring*

AGRI304 **Alt (3)**

Forage Crop Production

Basic principles of forage crop production, emphasizing choice of crop, establishment, growth, maintenance, harvesting, storage, feeding, and other management decision. *Spring*

AGRI308 **\$ Alt (3)**

Principles of Weed Control

Control of weeds in horticultural and field crops, utilizing biological, cultural, mechanical, and chemical practices. Class study also involves preparation and testing for pesticide applicator's license. Weekly: 2 lectures and a 3-hour lab. *Fall*

AGRI345 **(1-4)**

Topics in _____

A class based on selected topics of current interest in agriculture. Repeatable in different areas.

- Concepts of International Agriculture
- International Ag Implementation
- Horse Judging
- Livestock Judging

ANSI420 **\$ Alt (4)**

Canine Gross Anatomy

Study of macroscopic skeleton, muscles, internal organs, blood vessels and nerves using preserved, latex-injected specimens. Comparisons made with the live dog through palpation. Weekly: 2 lectures and 2 three-hour labs. Recommended: BIOL166. *Fall*

ANSI425 **Alt (3)**

Issues in Animal Agriculture, Research and Medicine

Study of the ethical issues that challenge animal researchers, producers, caretakers, and veterinarians to treat animals humanely yet effectively in society today. *Spring*

ANSI430 **Alt (2)**

Lactation Physiology

Anatomy and physiology of the udder, milk secretion, disease prevention and treatment, milking management and milking systems.

ANSI435 **Alt (3)**

Animal Genetics

A study of basic genetics, cytogenetics, immunogenetics, population genetics and quantitative genetics, biotechnology, gene mapping and the use of molecular tools to research inherited disorders. Included are descriptions of how veterinary genetics can be applied to artificial selection in animal production, information on the control of inherited disorders and the conservation of genetic diversity in both domesticated and wild animal species. *Spring*

ANSI440 **\$ Alt (3)**

Animal Reproduction

Study of anatomy and physiology of farm animal reproduction, which explores the cellular component as well as the management aspects. Weekly: 2 lectures and a 3-hour lab. Recommended: BIOL166. *Spring*

ANSI445 **\$ Alt (3)**

Physiology of Farm Animals

Physiology of digestive, reproductive, lactation, cardiovascular, pulmonary, excretory, nervous, and skeletomuscular systems in domesticated ruminants and monogastrics. Weekly: 2 lectures and a 3-hour lab. Recommended: BIOL166. *Fall*

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HORT105 **\$ (5)**

Plant Science

Intended to acquaint students with the requirements of plant growth and development. Understanding of these processes is gained by studying topics such as plant cells, tissue, and organ structure; photosynthesis, cellular respiration, plant reproduction, including flowering, fruit development, seed set, the role of hormones, and

spective look at landscape design personalities through the ages and their influence upon the American landscape. *Spring*

HORT359 **\$ Alt (3)**

Greenhouse Environment and Construction

Controlling the plant environment to enhance plant growth and optimal development through temperature, humidity, light, nutrients, sanitation and carbon dioxide levels. Structures, coverings and mechanical systems used are explored to produce the most cost-effective horticultural crops. Weekly: 2 hours lecture and a 3-hour lab. *Fall*

HORT360 **\$ Alt (3)**

Arborticulture

Care of shade and ornamental trees living under environmental stress of urbanization, their legal protection and value. Includes tree anatomy and physiology, soils, nutrition and water relationships, transplanting, disease and insect control, mechanical injury and pruning to develop a healthy tree. Weekly: 2 lectures and a 3-hour lab. *Fall*

HORT365 **\$ Alt (3)**

Urban Landscape Design

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Weekly-

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