

**Descriptions – Animal Husbandry
of
Courses**

ANIMAL HUSBANDRY A H

**College of Agriculture and Natural
Resources**

111. Livestock and Meat Industry
Fall, Spring. 4(3-4)

Livestock utilization of renewable resources in producing products for man. Adaptation, economics of production and management systems of beef cattle, swine, sheep and horse enterprises. Evaluation of market livestock.

**214. Introduction to Horses and
Horsemanship**
Fall. 3(3-1)

The horse industry in today's society. Relationship of form to function. Selection, breeding, feeding, foot care, health, and management of the pleasure horse. Proper horsemanship methods.

241. Principles of Meat Science
Winter. 3(3-0) Sophomores.

Structure, composition and function of muscle, its conversion to meat, animal growth and fattening, properties of fresh and processed meat, microbiology, preservation, palatability, inspection and sanitation, by-products, nutritive value.

**242. Meats, Poultry and Fishery
Products I**
*Fall. 3(2-2) Interdepartmental with
and administered by Food Science*

Principles of evaluation and nutritive value. Identification of grades and cuts of beef, pork, lamb and poultry products.

244. Meat Science Laboratory
*Winter, Spring. 2(0-5) Sophomores;
A H 241 or concurrently.*

Principles of meat animal and carcass evaluation, slaughter, meat cutting, retail cut identification, processing, inspection and quality control.

245. Meat Evaluation and Grading
*Fall, Spring. 1 to 3 credits. May reenroll
for a maximum of 4 credits subject to a
maximum of 10 credits in A H 245 and A H 335
combined. A H 241.*

Evaluation of carcasses and wholesale cuts of beef, pork, veal and lamb in accordance with federal and commercial grading standards. Inspection trips through large meat packing plants.

335. Livestock Selection
*Fall, Winter, Spring. 1 to 3 credits. May
reenroll for a maximum of 9 credits subject to a
maximum of 10 credits in A H 245 and A H 335
combined. A H 111.*

Evaluation of productive merit of individual animals. Comparison of type with a standard. Relationship of form to function. Field trips to prominent livestock breeding establishments and to major livestock events.

415. Special Problems
*Fall, Winter, Spring, Summer. 1 to 3
credits. May reenroll for a maximum of 5 credits.
Approval of department.*

Special problems in: animal breeding, ruminant nutrition, nonruminant nutrition, management, meat science, or reproduction.

426. Swine Nutrition
*Spring of odd-numbered years. 3(3-0)
A H 451; ANS 325 or ANS 525.*

Digestive and metabolic development and nutrient requirements of swine. Interactions of genetics, disease, endocrinology and environment with nutrition. Critical evaluation of swine feeds and feed formulation. Recent swine nutrition research.

451. Swine Production
*Fall. 4(3-2) ANS 325 or approval of de-
partment.*

Historical aspects with emphasis on current trends. Breeds, breeding, selection, nutrition requirements, management practices, marketing, housing and environmental needs, disease and parasite problems. Visits to representative farms.

452. Sheep Production
*Winter. 4(3-2) ANS 325 or approval of
department.*

Management of sheep enterprises. Using the tools of selection, reproduction, nutrition, flock health, housing and marketing to increase returns. Practice in trimming, showing, and management skills.

453. Beef Production
*Fall, Spring. 4(3-2) ANS 325 or ap-
proval of department.*

Feeding, breeding management, marketing. Emphasis on growth and development; costs and returns; feed requirements; reproduction, crossbreeding; performance testing; housing, diseases. Practice in management skills.

462. Meat Animal Breeding
Spring. 3(2-2) ANS 361.

Uses and effects of different breeding systems with beef cattle, sheep, and swine. Formulating breeding plans.

**IDC. The Impact of Animal Resource
Management Upon the World's
Developing Nations**
*For course description, see Interdisci-
plinary Courses.*

890. Advanced Special Problems
*Fall, Winter, Spring, Summer. 1 to 4
credits. May reenroll for a maximum of 8 credits.
Approval of department.*

Investigation of animal husbandry areas of special interest to individual graduate students.

899. Research
*Fall, Winter, Spring, Summer. Variable
credit. Approval of department.*

912. Seminar
Fall, Winter, Spring. 1 credit.

**921. Pathology of Nutritional and
Metabolic Diseases**
*Summer of even-numbered years.
4(3-2) Approval of department; PTH 404 or ANT
420. ANS 525, BCH 452, HNF 462 recommended.
Interdepartmental with the departments of
Large Animal Surgery and Medicine and
Pathology and Human Nutrition and Foods.
Administered by Human Nutrition and Foods.*

Development, physiopathology and morphologic pathology of nutritional and metabolic diseases including carbohydrate, protein, fatty acid, vitamin and mineral deficiencies, their experimental induction and their medical or economic significance.

**926. Comparative Nutrition-Lipids
and Carbohydrates**
*Winter of odd-numbered years. 4(4-0)
BCH 452 and a previous course on principles of
nutrition. Interdepartmental with and adminis-
tered by Human Nutrition and Foods.*

Regulatory aspects of carbohydrate and lipid metabolism as influenced by nutrition in mammals. Emphasis on normal and abnormal physiological states such as obesity, ketosis and diabetes.

**927. Comparative Nutrition-Protein
Metabolism and Developmental
Biology**

*Winter of even-numbered years. 4(4-0)
BCH 452, PSL 802 or concurrently. Inter-
departmental with and administered by Human
Nutrition and Foods.*

Protein quality assessment, protein status, protein calorie malnutrition, amino acid metabolism, protein turnover, digestion and absorption, hormonal control of protein metabolism, developmental aspects of protein metabolism and growth.

928. Comparative Nutrition-Minerals
*Spring of even-numbered years. 3 cred-
its. BCH 452, PSL 802. Interdepartmental with
Human Nutrition and Foods.*

Forms and location in body, metabolic roles, deficiency and toxicity signs, interrelationships, requirements and biological availability of sources.

929. Comparative Nutrition-Vitamins
*Spring of odd-numbered years. 3(3-0)
BCH 452 and a previous course on principles of
nutrition. Interdepartmental with Human Nu-
trition and Foods.*

Chemical and physical properties, standards of activity, occurrence, metabolic roles, antivitamins, deficiency and toxicity signs, requirements and factors affecting requirements.

963. Genetics of Breed Improvement
*Winter of odd-numbered years. 3(3-0)
ANS 361, STT 421.*

Breed improvement. Changing gene frequency. Genetic and environmental subdivision of phenotypic variance.

964. Breeding Systems and Plans
*Spring of odd-numbered years. 3(3-0)
A H 963.*

Biometric relations between related animals. Role of selection in changing populations. The effects of different mating systems.

999. Research
*Fall, Winter, Spring, Summer. Variable
credit. Approval of department.*

ANIMAL SCIENCE ANS

**College of Agriculture and Natural
Resources**

101. Animal Science
Fall. 5(4-2)

Survey of the animal industries including history, economic geography, anatomy and physiology, nutrition and feed usage, and systems of commercial livestock and poultry production.

213. Animal Science Seminar
Fall. 1(2-0)

Animal science industries. Industry representatives will be utilized to discuss particular areas.

325. Principles of Animal Nutrition
*Spring. 5(5-0) CEM 132; BCH 200 rec-
ommended.*

Livestock feeds and their nutrients. Functions of and requirements for nutrients. Evaluation of feeds. Feeding practices. Formulation of rations for beef and dairy cattle, horses, poultry, sheep and swine.