ANIMAL HUSBANDRY

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, economic, and 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)

241. Principles of Meat Science
Winter. 3(3-4) 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 341 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.

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, diet, technology 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 department.
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, shearing, and management skills.

453. Beef Production
Fall, Spring. 4(3-2) ANS 325 or approval 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.

For course description, see Interdisciplinary Courses.

890. Advanced Special Problems
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 5 credits. Approval of department.
Investigation of animal husbandry areas of special interest to individual graduate students.

999. 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. FTU 404 or ANT 420. ANS 525, BCH 452, INF 402 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 in a principles of nutrition. Interdepartmental with and administered by Human Nutrition and Foods.
Regulatory aspects of carbohydrate and lipid metabolism, influences by nutrition in mammals. Emphasis on normal and abnormal physiologic states such as obesity, ketosis and diabetes.

927. Comparative Nutrition-Protein Metabolism and Developmental Biology
Winter of even-numbered years. 4(4-0)
BCH 453, PSI 402 or concurrently. Interdepartmental with and administered by Human Nutrition and Foods.
Protein quality assessment, protein status, protein caloric 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 credits.
BCH 452, PSI 402. 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 482 and a previous course in principles of nutrition. Interdepartmental with Human Nutrition and Foods.
Chemical and physical properties, standards of activity, occurrence, metabolic roles, antitoxins, 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 451.

964. Breeding Systems and Plans
Spring of odd-numbered years. 3(3-0)
A H 953.
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

College of Agriculture and Natural Resources

101. Animal Science
Fall. 3(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 recommended.
College of Human Medicine
College of Osteopathic Medicine
College of Social Science

100. The Origin of Man and Culture
Fall, Winter, Spring, Summer. 4(3-0)
Introduction to physical anthropology, the position of man in the animal kingdom, the genetic mechanisms of evolution, human origins and the fossil record, racial evolution and racial types. Modern man, the anticipation of culture among other animals and the development of human culture, and culture as an adaptive mechanism.

171. Introduction to Sociocultural Anthropology
Fall, Winter, Spring, Summer. 4(3-1)
Comparison of ways of life among primitive, peasant and civilized peoples. Implications of these styles of life for understanding of human behavior in general and exotic cultures in particular.

281. The Africans and Their Cultures
Fall, Spring. 4(4-0)
Racial and cultural problems confronting the African peoples.

285. Anthropology and the Modern World
Spring. 4(2-2) ANP 171
Intertwined nature of cultural traditions in the modern world. Consideration of how people of developing nations respond to the dominant cultural forces of industrialized nations.

1 DC. Contemporary Problems of South Asia
For course description, see Interdisciplinary Courses.

343. Introduction to Physical Anthropology
Fall. 4(3-2)
Problems and techniques associated with the main topical areas of physical anthropology: human genetics, hominid evolution, primate behavior, human osteology and human diversity. Field trips may be required.

350. Peasant Society
Fall. 4(3-1) ANP 171
Anthropological study of peasantry. Comparative examination of the rural societies and cultures of Asia, Europe, and Latin America.

356. Culture, Health and Illness
Spring. 4(3-1) ANP 171
Anthropological study of health behavior. Comparative view of primitive, folk and scientific medical systems and their effect on the individual and the community in the illnesses situation.

380. Methods of Sociocultural Anthropology
Spring. 4(4-0) ANP 171, one upperdivision sociocultural ANP course, approval of department.
Field research and analysis methods and techniques in anthropology, development of research problems and questions; alternate models of validation, ethics of research and presentation of findings.

381. Anthropology and Education
Winter. 4(3-1) ANP 171 or other social science. For Education and Anthropology majors.
Mutilation and socialization in various societies of Asia, Africa, and Latin America. These will be compared with educational institutions in the U.S. and Europe. It is expected to be a contribution to the broader cross-cultural investigation of the teaching/learning process.

1 DC. Contemporary Problems of Japan
For course description, see Interdisciplinary Courses.

385. The Anthropology of Social Movements
Winter. 4(2-2) ANP 171 or approval of department.
Analysis of how different cultures around the world organize and create (or impede) change on the basis of class, religion, race, ethnicity, language, and territory.

1 DC. Survey of Sub-Saharan Africa
For course description, see Interdisciplinary Courses.