### Descriptions — American Thought and Language of Courses

#### 101B. Comprehensive English
Fall, Winter, Spring, Summer. 3(4-6)

No student may earn credit in both 101A and 101B. Admission by examination or approval of department.

Instruction and practice in reading and writing. Instruction in reading is emphasized.

#### 102. Comprehensive English
Fall, Winter, Spring, Summer. 3(4-0)

101A or 101B.

Continuation of 101 with emphasis on writing and grammar.

#### 103. Comprehensive English
Fall, Winter, Spring, Summer. 3(4-0)

102.

Continuation of 102 with emphasis on reading and writing on American cultural topics.

#### 111. American Thought and Language
Fall, Winter, Spring, Summer. 3(3-0)

Students may not receive credit for 111 and 102. Admission by examination or approval of department.

A. Aims to improve the student's ability to read and write and to acquaint him with his American heritage. Reading is in selected historical, social, and literary documents.

B. Whole books approach to regular program.

C. Emphasizes American humanities approach to regular program.

D. American minorities track. Subject matter for writing will be accounts of the experience of blacks, Indians and immigrants during the nineteenth and twentieth centuries.

E. American Radical Thought and Literature. Subject matter for writing will be radical literary and social documents of the seventeenth and eighteenth centuries.

F. Film track. Written exposition is based on both cinematic and fictional versions of literary and historical documents.

H. Adaptation of the regular program for honors students.

#### 112. American Thought and Language
Fall, Winter, Spring, Summer. 3(3-0)

Students may not receive credit for 112 and 103. 112 may not be repeated.

A. Aims to improve the student's ability to read and write and to acquaint him with his American heritage. Reading is in selected historical, social, and literary documents.

B. Whole books approach to regular program.

C. Emphasizes American humanities approach to regular program.

D. American minorities track. Subject matter for writing will be accounts of the experience of blacks, Indians and immigrants during the nineteenth and twentieth centuries.

E. American Radical Thought and Literature. Subject matter for writing will be radical literary and social documents of the seventeenth and eighteenth centuries.

F. Film track. Written exposition is based on both cinematic and fictional versions of literary and historical documents.

H. Adaptation of the regular program for honors students.

#### 501. Supervised Individual Study
Fall, Winter, Spring. 1 to 4 credits.

113; approval of department.

Selected students requesting individual study of interdisciplinary problems will work under supervision of University College professors. Variable elective credit will be determined when the student secures instructor, advisor, and department approval.

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### ANATOMY ANT

#### College of Human Medicine

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>316. General Anatomy</td>
<td>Fall, Spring</td>
<td>5(5-0)</td>
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#### College of Osteopathic Medicine

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<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>512. Gross and Microscopic Anatomy</td>
<td>Fall, Spring</td>
<td>4(4-14)</td>
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#### College of Veterinary Medicine

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<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>521. Gross and Microscopic Anatomy</td>
<td>Fall, Spring</td>
<td>4(4-14)</td>
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### Animal Husbandry A H

#### College of Agriculture and Natural Resources

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<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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<tbody>
<tr>
<td>111. Livestock and Meat Industry</td>
<td>Fall, Spring</td>
<td>4(3-4)</td>
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### 241. Meat Production

#### Meat products

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>324. Meats, Poultry and Fishery Products I</td>
<td>Fall, Spring</td>
<td>3(3-0)</td>
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### 245. Meat Evaluation and Grading

#### Meat evaluation and grading

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>325. Livestock Selection</td>
<td>Fall, Winter, Spring</td>
<td>3(3-3)</td>
</tr>
</tbody>
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### ANIMAL HUSBANDRY A H

#### 512. Gross and Microscopic Anatomy

- Fall, Spring, 4(4-14) First-term Veterinary Medicine students; approval of department for graduate students.
- Gross anatomy of a representative animal, the dog, is studied. Cytology, embryology, comparative histology, nervous system and organology are combined with dissection, demonstration and practical applications to give complete coverage.

#### 521. Gross and Microscopic Anatomy

- Fall, Spring, 4(4-14) First-term Veterinary Medicine students; approval of department for graduate students.
- Gross anatomy of a representative animal, the dog, is studied. Cytology, embryology, comparative histology, nervous system and organology are combined with dissection, demonstration and practical applications to give complete coverage.

#### 522. Gross and Microscopic Anatomy

- Fall, Spring, 4(4-14) First-term Veterinary Medicine students; approval of department for graduate students.
- Gross anatomy of a representative animal, the dog, is studied. Cytology, embryology, comparative histology, nervous system and organology are combined with dissection, demonstration and practical applications to give complete coverage.

#### 540. Gross Biomedical Structure

- Fall, Winter, Spring. Variable credit. May re-enroll for a maximum of 12 credits.
- Human Medicine students; approval of department for graduate students.
- Gross structure, systemic and regional, is studied in self-instructional and dissection sequences. Application of this knowledge to recognition of normal and abnormal structure in appropriate medical contexts is accomplished through self-instructional and clinical sessions.

#### 543. Microscopic Anatomy

- Fall, Spring. Human Medicine students; approval of department for graduate students.
- The normal structure of cells, tissues and organs as they appear under the light and electron microscope.

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### 801. Seminar

- Fall, Winter, Spring. 1(1-0) Approval of department.

### 813. Problems in Anatomy

- Fall, Winter, Spring. Variable credit. May re-enroll for a maximum of 12 credits. Basic disciplines in various areas and approval of department.

### 815. Anatomy of the Nervous System

- Fall, Spring. Approval of department.

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### 899. Research

- Fall, Winter, Spring, Summer. Variable credit. Majors.

### 901. Seminar

- Fall, Winter, Spring. 1(1-0) Approval of department.

### 999. Research

- Fall, Winter, Spring, Summer. Variable credit. Majors.

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### ANIMAL HUSBANDRY A H

#### 111. Livestock and Meat Industry

- Fall, Winter, Spring. 4(3-4) Adaptation, distribution and numbers of livestock throughout the world; significance and economic importance. Trends in livestock production. Evaluating, grading, classifying and marketing of livestock and meat. Relationship of live animal conformation to carcass merit.

#### 241. Meat Production


#### 242. Meat, Poultry and Fishery Products I

- Fall, Spring. 3(3-0) Interdepartmental with administration by Food Science.

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### 245. Meat Evaluation and Grading

- Fall, Spring. 1 to 3 credits. May re-enroll for a maximum of 4 credits subject to a maximum of 10 credits in 245 and 335 combined.

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### 335. Livestock Selection

- Fall, Winter, Spring. 1 to 3 credits. May re-enroll for a maximum of 9 credits subject to a maximum of 10 credits in 245 and 335 combined.

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### Evaluation of productive merit of individual animals. Comparison of type with a standard. Recognition of form and function. Field trips to prominent livestock breeding establishments and to major livestock events.
415. Special Problems
   Fall, Winter, Spring. 1 to 3 credits.
   May re-enroll for a maximum of 5 credits.
   Seniors and approval of department.

   Special studies in fields not covered by other animal husbandry courses.

451. Swine Production
   Spring. 4(3-3) 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 of even-numbered years. 4(3-3) ANS 325 or approval of department.

   History, modern breeds, breeding, selection and feeding, management, marketing, housing, diseases and parasites, wool. Visits to farm flocks. Practice in management skills.

453. Beef Production
   Spring. 4(3-3) ANS 325 or approval of department.

   History, breeds, breeding, selection, nutrition and feeding, commercial systems of production, diseases and parasites. Visits to purchase herds and to feed lots. Practice in management skills.

454. Horse Production
   Fall of even-numbered years. 3(2-2) ANS 325 or approval of department.

   Selection, breeding, feeding, management, marketing, diseases and parasites. Relationship of body structure to performance.

462. Meat Animal Breeding
   Spring. 3(3-3) ANS 461.

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

   Winter. 3(4-0) For course description, see Interdisciplinary Courses.

   Use of specialized instruments and techniques. Laboratory safety. Management of laboratory animals. Development of abilities in areas of particular interest to individual students.

A19. Advanced Special Problems
   Fall, Winter, Spring. 1 to 4 credits.
   May re-enroll for a maximum of 8 credits.
   Approval of department.

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

509. Research
   Fall, Winter, Spring. Variable credit.
   Approval of department.

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

927. Comparative Nutrition I
   Winter. 2 or 4 credits. BCH 452.

   Mammalian nutrition based on biochemical and physiological phenomena. Proteins are studied in the first half of the term, carbohydrates, fats and macro-minerals in the last half.

925. Comparative Nutrition II
   Spring. 2 or 4 credits. BCH 452.

   Interdepartmental with Human Nutrition and Foods.

   Mammalian nutrition based on biochemical and physiological phenomena. Micro-minerals are studied in the first half of the term; vitamins in the last half.

965. Biometrical Genetics
   Fall. 4(4-0) One course in quantitative or population genetics.


ANTHROPOLOGY ANP

College of Human Medicine
College of Osteopathic Medicine
College of Social Science

100. The Origin of Man and Culture
   Fall, Winter, Spring, Summer. 4(3-1)

   Introduction to physical anthropology; the position of man in the animal kingdom, the genetic mechanisms of evolution, human beginnings and the fossil record, racial evolution and racial types among modern man, the anticipation of culture among other animals and the development of human culture, and culture as an adaptive mechanism.

171. Introduction to 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.

190. Resource Ecology and Man
   For course description, see Interdisciplinary Courses.

221. Introduction to Social and Cultural Analysis
   Fall, Spring. 4(3-1) 171

   Basic theoretical framework of socio-cultural analysis; structural functionalism, evolutionism, and cultural ecology.

250. Culture, Environment and Adaptation
   Fall. 4(3-1) 100

   Culture as an adaptive process—as developed in the million years of human history and still influencing environmental quality, population control, and allocation of resources in primitive and modern societies.

263. Origin of Civilization: Archaeology
   Spring. 4(3-0) 100 or 171

   The rise, development and spread of culture in the period before written history. Archaeological evidence is used to trace the evolution of culture as it has been reconstructed from the excavation of prehistoric sites in the Old and New World.

275. The Anthropology of Asia
   Fall. 4(3-0) Sophomore or approval of department.

   Several cultural complexes and culture types—from hunting and gathering through complex civilization—of East, Southeast, and South Asia. The cultures and nature of their development will be examined. Past and present significance of cultural stability and change will be seen in a comparative framework.

281. The Africans and Their Cultures
   Fall, Spring. 4(3-0) Sophomore or approval of department.

   Racial and cultural problems confronting the African peoples.