183. Writing: Women in America Fall, Winter, Spring. 3(3-0) Three credits in the second term of any ATL sequence numbered 121 or higher or approval of department.
Writing course to improve composition and critical reading abilities. Writing based on women in American life and literature from 1920 to the present. Research project required.

1911H. Honors Writing: The American Experience Fall, Winter, Spring. 3(3-0) Satisfactory performance on the placement test.
Writing course to improve composition and critical reading abilities. Writing based on analysis of selected material from Colonial to early nineteenth century topics.

192H. Honors Writing: The American Experience Winter. 3(3-0) Satisfactory grade in the first term of any ATL sequence numbered ATL 121 or above.
Writing course to improve composition and critical reading abilities. Writing based on analysis of selections from the late nineteenth and early twentieth centuries.

205. Reading for University-Level Understanding Fall, Winter, Spring. 2(0-4) May reenroll for a maximum of 4 credits.
Individualized instruction in techniques for improving vocabulary, comprehension, rate, study skills and test taking skills in order to achieve a better understanding of university-level materials.

300. Supervised Individual Study Fall, Winter, Spring, Summer. 2 to 4 credits. May reenroll for a maximum of 12 credits. 9 credits in a composition course; approval of department.
Selected students requesting individual study of interdisciplinary problems. Variable elective credit will be determined when the student secures instructor, adviser, and department approval.

ANATOMY

College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine

216. Applied Human Anatomy Fall, Winter, Spring. 5(4-3) HCP major or coaching minor, approval of department. Interdepartmental with the School of Health Education, Counseling Psychology and Human Performance.
Structural anatomy of the various systems of the human body. Concepts of kinesiological applications.

316. General Anatomy Fall, Spring. 5(4-0) B S 211 or B S 212 or approval of department.
Designed to impart the basic concepts of the broad field of anatomy. Special requirements of the various disciplines will be met in their respective laboratories.

420. Microscopic Anatomy Winter. 5(2-8) Medical Technology students or approval of department.
Microscopic study of the structure of cells, tissues and organs.

490. Special Problems Fall, Winter, Spring, Summer. 1 to 5 credits. May reenroll for a maximum of 15 credits. Approval of department.
Individual study or project under the direction of a faculty member in biomedical research, gross anatomy, histology, neurology, or embryology.

505A. Anatomy in Physical Diagnosis Fall. 1 to 3 credits. H M 505 concurrently.
Exercises in which students study systemic anatomy in a physical diagnosis context. Preparatory self-instruction precedes exercises.

510. Veterinary Gross Anatomy Fall, Winter. 6(3-6) First-term Veterinary Medicine students.
Gross anatomy of a representative animal, the dog, is studied. Lecture, dissection of embalmed specimen, study of dissections, slides, models and living animals.

511. Veterinary Histology Fall, Winter. 5(3-6) First-term Veterinary Medicine students.
A general histology course for veterinary students which includes a survey of the tissue of the animal body.

512. Veterinary Neuro Anatomy Fall, Winter, Spring. 3(3-0) Second-term Veterinary Medicine students.
Gross anatomy of the central nervous system in animals emphasizing functional and dysfunctional aspects of pathways and nuclei in dogs as a foundation for clinical neurology.

513. Veterinary Microscopic Anatomy Winter, 4(2-4) Second-term Veterinary Medicine students.
Microscopic anatomy of the digestive, urinary, respiratory, male and female reproductive system, integumentary system, central nervous system and special sense organs of domesticated animals.

514. Veterinary Comparative Anatomy (532) Spring. 5(4-0) Third-term Veterinary Medicine students.
Lecture, dissection of embalmed specimens and the study of sections, models and live animals related to the anatomy of the domestic animals.

540. Gross Biomedical Structure Winter. 1 to 15 credits. May reenroll for a maximum of 15 credits. Approval of department.
Regional gross anatomy of the back, thorax, abdomen, pelvis and perineum.

541. Gross Biomedical Structure Fall, Winter, Spring. 1 to 15 credits. Admission to a college of medicine; graduate students with approval of department.
Regional gross anatomy of the head and neck.

543. Human Histology Fall. 4(2-4) Human Medicine students; approval of department for graduate students.
The structure and function of human cells, tissues, and organs.

544. Human Ontogenesis Fall. 3(3-0) Admission to a college of medicine; graduate students with approval of department.
Formal lectures, class conferences and student reports on the normal and abnormal organs and systems of the human embryo and fetus with emphasis on clinical correlations.

545. Neuroanatomy Winter. 3(0-4) Admission to medical school or approval of Neuroscience Committee.
Introduction to gross and microscopic anatomy of the human nervous system, to related basic neurophysiologic concepts and to a problem-solving approach to the diagnosis of nervous system disease.

550. Medical Histology Fall. 4(3-4) Admission to a college of medicine or approval of department.
Structural and functional characteristics of basic cells, tissues and organ systems. Emphasis on core concepts and visual discrimination.

563. Osteopathic Medical Neuroanatomy Spring. 4(3-4) Admission to a college of medicine; graduate students with approval of department.
Medically oriented problem-solving neuroanatomy with laboratory. Structure of the human nervous system is correlated with normal function, clinical testing and classical lesions encountered in medical practice.

565. Introduction to Human Gross Anatomy Fall. 4(3-4) Admission to a college of medicine or approval of department.
Core concepts in regional, systemic and topographical human gross anatomy: Prosection, discussion and lecture methods using audiovisual aids and frequent review.

580. Special Problems Fall, Winter, Spring, Summer. 1 to 5 credits. May reenroll for a maximum of 15 credits. Admission to professional program in the College of Human Medicine, College of Osteopathic Medicine or the College of Veterinary Medicine, and approval of department.
Biomedical research, gross anatomy, histology, neurology, immunology or embryology.

813. Problems in Anatomy Fall, Winter, Spring. 1 to 5 credits. May reenroll for a maximum of 15 credits. Basic disciplines in various areas and approval of department.
Various anatomical fields such as gross anatomy, histology, hematology, tissue culture, cytology, neurology and embryology will be studied.
ANIMAL SCIENCE

College of Agriculture and Natural Resources

111. Animal Industries Colloquium
   (213.) Fall. 1(0-2)
   History of animal agriculture. Current activities, goals and limitations of animal industries and agribusiness. Professional responsibilities and utilization of academic and non-academic experiences.

211. Principles of Animal Science
   Fall, Spring. 5(3-0) B S 211.
   Animal industries and species. Principles of genetics, reproduction, lactation, nutrition and management. Systems of production and marketing for farm animals.

217. Evaluation of Animal and Carcasses
   (A H 235.) Fall. 3(1-4) ANS 211 or concurrently.
   Evaluation of breeding stock, market animals, and carcasses. Emphasis on production records and soundness of breeding animals, quality grading, yield grading and pricing market animals and carcasses.

232. Dairy Production Laboratory
   (A H 241.) Fall. 1(0-3) ANS 211 or concurrently.
   Physical characteristics of cows and facilities. Anatomy. Experience in estrous detection, milking equipment, feeds and rations and records. Normal cow behavior.

242. Introduction to Horse Management
   (A H 214.) 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.

252. Livestock Production Laboratory
   (A H 242.) 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.

257A. Meat Evaluation and Grading
   (A H 245.) Winter. 1(6-3) ANS 217.
   Students may not earn more than 10 credits from the following courses: ANS 257A, ANS 257B, ANS 257C, ANS 347A, ANS 347B, ANS 357A, ANS 357B, ANS 357C.
   Evaluation of beef, pork and lamb carcasses and wholesale cuts according to industry and consumer demands. Federal grading standards. Field trips to meat packing operations required.

261. Introduction to Poultry Production
   (PS 224.) Winter, Spring. 3(0-3)

262. Poultry Production Laboratory
   Winter, Spring. 1(0-3) ANS 261 or concurrently or approval of department.

312A. Intensive Livestock Systems
   Fall. 3(1-4) Juniors, PS M 230 recommended.

312B. Intensive Livestock Systems
   Winter. 3(1-4) ANS 312A.
   Continuation of ANS 312A. Computer based surveillance and evaluation of livestock project. Marketing concepts and practices. Students manage livestock. Field trips required.

313. Principles of Animal Nutrition
   (325.) Fall. 3(3-0) PSL 241, CEM 143; BCH 200 recommended.

314. Principles of Animal Breeding
   (361.) Winter. 3(3-0) B S 211 or a course in Mendelian genetics.

337. Judging Dairy Cattle
   (DRY 323.) Spring. 3(0-6)
   Students may not earn more than 10 credits from the following courses: ANS 257A, ANS 257B, ANS 257C, ANS 347A, ANS 347B, ANS 357A, ANS 357B, ANS 357C.
   Desired type in dairy cattle. Judging and show ring procedures. Current events. Teams selected to represent Michigan State University in national competition.

347A. Judging Horses
   (A H 335.) Spring. 2(0-6) ANS 217.
   Students may not earn more than 10 credits from the following courses: ANS 257A, ANS 257B, ANS 337, ANS 347A, ANS 347B, ANS 357A, ANS 357B, ANS 357C.
   Evaluation of conformation, productive and functional merits of individual horses. Field trips to prominent equine establishments and events required.