451. American Art through 1875  
Spring of even years. 3(3-0) Interdepartmental with History of Art. Administered by History of Art. P: (HA 250) or (HA 120 and HA 121) and Completion of Tier I writing requirement. Artistic production in North America from colonial times to 1875, in its cultural context. 
SA: HA 438, HA 448

453. American Art, 1875-1940  
Fall of even years. 3(3-0) Interdepartmental with History of Art. Administered by History of Art. P: (HA 250) or (HA 120 and HA 121) and Completion of Tier I writing requirement. Artistic production in North America from colonial times to 1875, in its cultural context. 
SA: HA 448, HA 558

491. Perspectives in American Studies  
Fall. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Methods and significant works in American Studies. Topics vary.

492. Seminar in American Studies  
Spring. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to students in the College of Arts and Letters or James Madison College or Lyman Briggs School. Selected topics in American life emphasizing interdisciplinary approaches. Topics vary.

855. Seminar in American Art  
Spring of odd years. 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with History of Art. Administered by History of Art. R: Approval of department. Intensive investigation of a topic in the history of American art.

881. American Studies Theory, Methods, and Bibliography  
Fall. 3(3-0) Methods and bibliographical sources of American Studies research. Interdisciplinary approaches to studying American culture.

890. Independent Study  
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of college. Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.

891. Special Topics in American Studies  
Fall, Spring, Summer. 3(3-0) A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of college. Special topics supplementing regular course offerings proposed by faculty for graduate students on a group study basis.

899. Master’s Thesis Research  
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of college. Directed research leading to a master’s thesis in partial fulfillment of Plan A master’s degree requirements.

999. Doctoral Dissertation Research  
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 30 credits in all enrollments for this course. R: Approval of college.

AMERICAN THOUGHT AND LANGUAGE  
ATL

Department of American Thought and Language

College of Arts and Letters

0102. Preparation for College Writing  
Fall, Spring. 0 credit. [1(0-2) See page A-2, item 3.J] P: Designated score on English placement test. C: ATL 1004 concurrently. Practice in applying the principles of English grammar, syntax, and word usage to writing.

1004. Preparation for College Writing  
Fall, Spring. 3(3-0) P: Designated score on English placement test. C: ATL 0102 concurrently. Composing, revising, and editing. Active reading and pre-writing strategies. Style, mechanics, and usage. Organization and proofreading.

110. Writing: Science and Technology  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on American science and technology to develop skills in narration, persuasion, analysis, and documentation.

115. Writing: Law and Justice in the United States  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on American law and justice to develop skills in narration, persuasion, analysis and documentation.

130. Writing: American Radical Thought  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on American radical thought to develop skills in narration, persuasion, analysis, and documentation.

135. Writing: Public Life in America  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on American civic tradition and community service-learning experiences to develop skills in narration, persuasion, analysis, and documentation.

140. Writing: Women in America  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on women in America to develop skills in narration, persuasion, analysis, and documentation.

145. Writing: Men in America  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 135 or ATL 140 or ATL 145 or ATL 150 or ATL 195H. Drafting, revising, and editing compositions derived from readings on men in America to develop skills in narration, persuasion, analysis, and documentation.

150. Writing: The Evolution of American Thought  
Fall, Spring. 4(4-0) P: (ATL 1004) or designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 135 or ATL 140 or ATL 145 or ATL 195H. Drafting, revising, and editing compositions derived from American historical, social, and cultural texts to develop skills in narration, persuasion, analysis, and documentation.
Descriptions—American Thought and Language of Courses

195H. Writing: Major Topics in American Thought
Fall, Spring. 4(4-0) P: Designated score on English placement test. Not open to students with credit in MC 111 or MC 112 or LBS 133 or AL 192 or AL 192H or ATL 110 or ATL 115, ATL 120 or ATL 125 or ATL 130 or ATL 135 or ATL 140 or ATL 145 or ATL 150.
Drafting, revising, and editing compositions derived from readings on major topics in American thought to develop advanced skills in narration, persuasion, analysis, and documentation.

290. Independent Study
Fall, Spring, Summer. 1 to 4 credits. R: Open only to freshmen or sophomores. Approval of department.
Special projects arranged by an individual student and a faculty member in areas supplementing regular course offerings.

ANATOMY

ANT

Department of Anatomy
College of Human Medicine
College of Osteopathic Medicine
College of Veterinary Medicine

316. General Human Anatomy
Spring, 3(3-0) P: BS 110 or BS 111 or approval of department.
Human structure. Major systems of the human body.

480. Special Problems in Anatomy
Fall, Spring, Summer. 1 to 5 credits. A student may earn a maximum of 15 credits in all enrollments for this course. R: Approval of department.
Topics from an anatomical field such as gross anatomy, histology, tissue culture, cytology, neurology, or embryology.

515. Comparative Veterinary Gross Anatomy
Fall, 6(5-0) R: Open only to graduate-professional students in the College of Veterinary Medicine.
Canine anatomy. Comparisons with ruminant, porcine, and equine anatomy.

516. Veterinary Histology and Cell Biology
Fall, 4(3-2) R: Open only to graduate-professional students in the College of Veterinary Medicine.
Principles of developmental, cellular, and molecular biology as related to veterinary medicine.

517. Veterinary Neuroanatomy
Spring, 1(1-0) R: Completion of 1 semester of the graduate-professional program in the College of Veterinary Medicine.
Introduction to the anatomy of the nervous system using the canine species as a model.

518. Medical Gross Anatomy
Fall, 6(4-6) R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Gross anatomy of the human body using projections, medical imaging, clinical correlations, case studies, video tapes, and computer-aided instruction.

521. Medical Neuroscience
Spring, 4(3-2) Interdepartmental with Physiology, Radiology, R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.

522. Medical Histology
Spring, 3(2-2) R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Histology of the human body.

525. Human Gross Anatomy Dissection
Fall, Spring, Summer. 2 to 7 credits. A student may earn a maximum of 15 credits in all enrollments for this course. P: ANT 551. R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Dissection of selected regions of the human body.

526. Human Gross Anatomy Dissection
Spring, Fall. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate-professional students in College of Veterinary Medicine. Approval of department.
Veterinary gross anatomy, cell biology, histology, or neurobiology.

527. Veterinary Gross Anatomy Dissection
Spring, Fall, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate-professional students in College of Veterinary Medicine.
Dissection and prospection of selected regions of domestic animals.

529. Problems in Anatomy
Fall, Spring, Summer. 1 to 5 credits. A student may earn a maximum of 5 credits in all enrollments for this course. R: Approval of department.
Fields such as gross anatomy, histology, tissue culture, cytology, neurology, and embryology.

531. Medical Gross Anatomy
Fall, 6(4-6) R: Open to graduate students in Anatomy.
Gross anatomy of the human body using projections, medical imaging, clinical correlations, case studies, video tapes, and computer-aided instruction.

532. Medical Neuroscience
Spring, 4(3-2) Interdepartmental with Physiology, Radiology, R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.

533. Medical Histology
Spring, 3(2-2) R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Histology of the human body.

535. Human Gross Anatomy Dissection
Fall, Spring, Summer. 2 to 7 credits. A student may earn a maximum of 15 credits in all enrollments for this course. P: ANT 551. R: Graduate-professional students in colleges of Human Medicine and Osteopathic Medicine.
Dissection of selected regions of the human body.

536. Medical Neuroanatomy
Spring, 2(1-1) R: Open only to graduate-professional students in College of Veterinary Medicine.
Current topics in anatomy and physiology and processes of central nervous system cells.

537. Veterinary Neuroanatomy
Spring, 4(3-2) R: Open only to graduate-professional students in the College of Veterinary Medicine.
Anatomy, pharmacology, and physiology of multi-cellular neural systems. Sensory, motor, autonomic, and chemo-regulatory systems in vertebrate brains.

538. Vertebrate Neural Systems
Spring of odd years. 3(2-2) Interdepartmental with Physiology.
Comparative analysis of major component systems of vertebrate brains. Evolution, ontogeny, structure, and function in fish, amphibians, reptiles, birds and mammals.

899. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open only to graduate students in Anatomy.

ANIMAL SCIENCE

ANS

Department of Animal Science
College of Agriculture and Natural Resources

110. Introductory Animal Agriculture
Fall, Spring. 4(3-2)
History of animal agriculture and its relationship to human needs, production systems, marketing, and environmental considerations. Current goals of and limitations affecting U.S. farm animal production.

120A. Introductory Judging of Livestock or Carcasses
Spring. 1 to 2 credits. A student may earn a maximum of 3 credits in all enrollments for this course. P: ANS 211. R: A student may earn a maximum of 8 credits from ANS 200A, ANS 200B, ANS 300A, ANS 300B, ANS 300C and ANS 300D.

120B. Introductory Judging of Dairy Cattle or Horses
Spring. 1 to 2 credits. A student may earn a maximum of 3 credits in all enrollments for this course. R: A student may earn a maximum of 8 credits from ANS 200A, ANS 200B, ANS 300A, ANS 300B, ANS 300C and ANS 300D.
Evaluation of functional conformation of dairy cattle or horses. Preparation for intercollegiate competition. Field trips required.