Agriculture and Natural Resources ANR

College of Agriculture and Natural Resources

350. Leadership Development for Agriculture and Natural Resources Fall, Spring, 2(0-3) R: Not open to freshmen and sophomores. Approval of college; application required. Preparation for community leadership. Field observation of social, economic and political problems. Emphasis on awareness, action and involvement. Seminars and interviews. QA: ANR 475

370. Agriculture and Natural Resources Seminar Fall, Spring, 1(0-3) R: Not open to freshmen and sophomores. Current agricultural, natural resources and environmental problems and solutions. Discussion leaders from various disciplines. QA: ANR 425

475. International Studies in Agriculture and Natural Resources Fall, Spring, Summer. Offered at various off campus sites. 2 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of college; application required. Study-travel experience emphasizing contemporary problems affecting agriculture and natural resources in the world, national and local communities. Case studies and interviews with officials, community leaders and leading professionals. QA: ANR 475

481. Agricultural Research Systems in Developing Countries Summer, 2(2-0) Interdepartmental with Agricultural Economics, Animal Science, and Crop and Soil Sciences. R: Open only to seniors and graduate students in the College of Agriculture and Natural Resources. Planning, organizing and managing agricultural research systems. Problems and alternative reforms to improve research productivity. Adapting new agricultural technology in developing countries. QA: ANR 480

489. Integrated Approaches to Agriculture and Natural Resources Problems Fall, Spring, 3(2-2) P: MTH 110 or MTH 116; EC 201 or EC 202. R: Open only to seniors in the College of Agriculture and Natural Resources. Holistic solutions to resources management and allocation: an integrated, multidisciplinary team approach to case study problems. QP: MTH 106, MTH 110, MTH 111, EC 201, EC 202

491. Selected Topics Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Not open to freshmen and sophomores. Special topics in agriculture and natural resources. QA: ANR 480

493. Professional Internship in Agriculture and Natural Resources Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to juniors and seniors in the College of Agriculture and Natural Resources. Approval of departmental application required. Supervisioned professional experiences in agencies and businesses related to a student’s major field of study. QA: ANR 480

American Studies AMS

College of Arts and Letters

491. Perspectives in American Studies Fall, Spring, 3(3-0) A student may earn a maximum of 6 credits in all enrollments for this course. R: Not open to freshmen and sophomores. Methods and significant works in American Studies. Topics vary. QA: AMS 410

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 juniors and seniors in the College of Agriculture and Natural Resources. Approval of departmental application required. Supervised professional experiences in agencies and businesses related to a student’s major field of study. QA: ANR 480

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. QA: A L 801

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. QA: A L 803

891. Special Topics in American Studies Fall, Spring, Summer. 4(4-0) 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. QA: A L 802

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.
Courses

145. Writing: Men in America
Fall, Spring. 4(3-0)
P: Designated score on English placement test or ATL 100H. R: Not open to students with credit in MC 111, MC 112, LBS 133, ATL 119, ATL 120, ATL 125, ATL 130, ATL 140, ATL 150, ATL 195H.
Drafting, revising, and editing compositions derived from readings on men in America to develop skills in narration, persuasion, and analysis, and documentation.
QF: MC 111, MC 112, LBS 133 QA: ATL 1154, ATL 1164, ATL XYZ, ATL XYZ

150. Writing: The Evolution of American Thought
Fall, Spring. 4(3-0)
P: Designated score on English placement test or ATL 100H. R: Not open to students with credit in MC 111, MC 112, LBS 133, ATL 119, ATL 120, ATL 125, ATL 130, ATL 140, ATL 145, ATL 195H, ATL 195H.
Drafting, revising, and editing compositions derived from American historical, social, and cultural texts to develop skills in narration, persuasion, analysis, and documentation.
QF: ATL XYZ, ATL XYZ, ATL 1154, ATL 1164

195H. Writing: Major Topics in American Thought
Fall, Spring. 4(3-0)
P: Designated score on English placement test. R: Not open to students with credit in MC 111, MC 112, LBS 133, ATL 119, ATL 120, ATL 125, ATL 130, ATL 140, ATL 145, ATL 195H, ATL 195H.
Drafting, revising, and editing compositions derived from readings on major topics in American thought to develop advanced skills in narration, persuasion, analysis, and documentation.
QF: ATL 192H, ATL 193H

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

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 and RS 111 or approval of department. Human structure. Major systems of the human body.
QF: BS 211, BS 212 QA: ANT 316

515. Comparative Veterinary Gross Anatomy
Fall. 6(2-0)
R: Open only to graduate-professional students in the College of Veterinary Medicine.
Canine anatomy. Comparisons with ruminant, porcine, and equine anatomy.
QF: ANT 514

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.
QF: ANT 611

517. Veterinary Neuroanatomy
Spring. 4(3-0)
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.
QF: ANT 512

551. Medical Gross Anatomy
Fall. Graduate professional students in colleges of Human and Osteopathic Medicine. Gross anatomy of the human body using dissections, medical imaging, clinical correlations, case studies, video tapes, and computer aided instruction.
QF: MC 111, MC 112, LBS 133 QA: ATL 1154, ATL 1164, ATL XYZ, ATL XYZ

552. Medical Neuroscience
Spring. Graduate-professional students in colleges of Human and Osteopathic Medicine. Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.
QF: ATL 192H, ATL 193H

585. Human Gross Anatomy Dissection
Fall, Spring, Summer. 3 to 7 credits. A student may earn a maximum of 15 credits in all enrollments for this course.
QF: ANT 551 R: Graduate-professional students in colleges of Human and Osteopathic Medicine. Dissection of selected regions of the human body.

610. Veterinary Gross Anatomy Dissection
Spring. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
QF: ANT 515 R: Open only to graduate-professional students in College of Veterinary Medicine. Dissection and prosection of selected regions of domestic animals.

813. 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.
QF: ANT 515

814. Graduate Seminar
Spring. Graduate students in colleges of Human and Osteopathic Medicine. Supervised practice in evaluating abstracts and preparing oral presentations of anatomical sciences.
QF: ANT 815

820. Advanced Neuroanatomy
Summer. Graduate students in colleges of Human and Osteopathic Medicine. Correlation of normal structure and function of the human nervous system with clinical testing, classical lesions, and common diseases.
QF: ANT 515

829. Systems Neuroscience
Spring of even-numbered years. 4(4-0)
R: Open only to graduate students in the Colleges of Human Medicine, Osteopathic Medicine, Agriculture and Natural Resources, Natural Science, and Veterinary Medicine.
QF: ANT 829

839. Vertebrate Neural Systems
Spring of odd-numbered years. 4(4-0)
R: Open only to graduate students in the College of Human Medicine, Osteopathic Medicine, Agriculture and Natural Resources, Natural Science, and Veterinary Medicine.
QF: ANT 839

989. Master's Thesis Research
Fall, Spring, Summer. 1 to 8 credits. A student may earn a maximum of 12 credits in all enrollments for this course.
QF: Open only to graduate students in Anatomy.
QF: ANT 899

999. 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.
QF: Open only to graduate students in Anatomy.
QF: ANT 999

ANIMAL SCIENCE

ANS

Department of Animal Science
College of Agriculture and Natural Resources

110. Introductory Animal Agriculture
Fall. 3(2-2)
QF: ANS 110
R: Not open to freshmen. Principles of managing beef and dairy cattle, horses, poultry, sheep and swine through their life cycles. Topics include genetics, nutrition, reproduction, health, care, and economically efficient production.

210. Animal Products
Fall. 3(3-0)
QF: ANS 110, ANS 211 QA: ANS 158, FSC 500

211. Animal and Product Evaluation
Spring. 3(1-6)
QF: ANS 211 QA: ANS 211, ANS 158, FSC 500
R: Open only to sophomores, juniors, and seniors. Fundamentals of animal and product evaluation. Skeletal, musculature and histology of animals and its relation to function, oral and written defense of decisions regarding evaluation.

212. Merchandising Purebred Livestock
Spring of even-numbered years. 21-2
QF: ANS 211, ANS 212 QA: ANS 211, ANS 158, FSC 500
R: Open only to seniors. Principles of managing beef and dairy cattle, horses, poultry, sheep and swine through their life cycles. Topics include genetics, nutrition, reproduction, health, care, and economically efficient production.

262. Sheep Management
Spring. 3(2-2)
QF: ANS 262 QA: ANS 262
R: Open only to seniors. Principles of sheep management: genetics, reproduction, nutrition, marketing, and economics.
QF: ANS 262

300A. Livestock Judging
Fall of even-numbered years. 2 credits.
QF: ANS 300A QA: ANS 300A
QF: ANS 357A, ANS 357B QA: ANS 357C

300B. Meat Evaluation and Grading
Fall of odd-numbered years. 2 credits.
QF: ANS 300B QA: ANS 300B
R: Not open to freshmen. Evaluation of beef, pork, and lamb carcasses and wholesale cuts according to industry standards. Federal grading standards. Field trips to meat packing operations required. Represent MSU in intercollegiate competition.
QF: ANS 257A QA: ANS 257B