

**Descriptions — Agriculture and Natural Resources**

**of Courses**

**399. Professional Internships in Agriculture and Natural Resources**  
 Fall, Winter, Spring, Summer. 6 to 12 credits. May reenroll for a maximum of 12 credits. Juniors and approval of department.  
 Professionalized experiences in a student's major. Supervision and evaluation by faculty and cooperating agencies.

**410. Environmental Toxicology**  
 Winter. 4(4-0) B S 212, BCH 401. Interdepartmental with and administered by the College of Natural Science.  
 Fate and effects of toxic chemicals in soil, plants, wildlife, and aquatic systems. Interactions between chemicals and the environment which influence their fate and ecological importance.

**425. Agriculture and Natural Resources Seminar**  
 Spring. 2(2-0)  
 Current agricultural, natural resources, and environmental problems and solutions as presented by discussion leaders from various disciplines, arranged by undergraduate students.

**445. Pest Management: Pesticide Chemistry and Application Systems for Plant Protection**  
 Fall. 5(3-4) CEM 143, ENT 425, HRT 402 or CSS 402, BOT 405 or concurrently or approval of instructor. Interdepartmental with and administered by the College of Natural Science.  
 A broad overview of pesticide chemistry, efficient usage, environmental fate, legislation and application techniques.

**446. Pest Management: Biological Systems for Plant Protection**  
 Fall. 3(3-0) ENT 425, HRT 402 or CSS 402, BOT 405 or concurrently or approval of instructor. Interdepartmental with and administered by the College of Natural Science.  
 Management of plant pests utilizing host resistance, cultural practices, legislation, and biological systems.

**447. Pest Management: Systems Management for Plant Protection**  
 (ANR 444.) Winter. 4(3-2) NSC 445, NSC 446 or approval of instructor. Interdepartmental with and administered by the College of Natural Science.  
 Designed to integrate knowledge and improve ability in arriving at pest management decisions of varying complexity involving the fields of agronomy, wildlife, horticulture, entomology, and plant pathology.

**450. Natural Resource Administration**  
 Winter. 4(4-0) Seniors; not open to forestry majors. Interdepartmental with the departments of Fisheries and Wildlife, Forestry, Park and Recreation Resources and Resource Development. Administered by the Department of Forestry.  
 Concepts and methods of administering wildland properties. The legal, economic and social environment. Benefit-cost analysis of management changes. Unit organization, personnel management and accounting. Presents a systems view of administration.

**455. Natural Resource Economics**  
 Fall. 4(4-0) Approval of department. Interdepartmental with the departments of Fisheries and Wildlife, Forestry, Park and Recreation Resources and Resource Development. Administered by the Department of Forestry.  
 Basic economic and political principles and techniques that govern the production and consumption of forest land products, including basic forest valuation procedures.

**462. Agricultural and Rural Development in Developing Nations**  
 Fall. 3(3-0) PAM 201 or EC 201; PAM 260 recommended. Interdepartmental with Public Affairs Management, and Food Systems Economics and Management. Administered by Food Systems Economics and Management.  
 Traditional agricultural systems and the incentive environment for economic growth in rural areas. Adjustment to technological, institutional and human change. Strategies for rapid agricultural transformation.

**475. International Studies in Agriculture and Natural Resources**  
 Spring, Summer. 3 to 9 credits. Approval of college.  
 Study-travel experience emphasizing contemporary problems affecting agriculture in the world, national, and local communities. Field trips, case studies, interviews with leading experts, government officials, community leaders. Supervised individual study.

**480. Selected Topics**  
 Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 9 credits if different topics are taken. Approval of department. Juniors.  
 Exposition of special topics in agriculture and natural resources.

**491. Natural Resources and Modern Society**  
 Spring. 3(3-0) Juniors. Interdepartmental with the departments of Forestry, and Resource Development. Administered by the Department of Forestry.  
 A survey of the social and economic significance of natural resources in modern industrial and urban society. Current problems of natural resources management and use are examined in terms of the society in which they exist.

**AMERICAN STUDIES AMS**  
**College of Arts and Letters**

**301. Issues in American Civilization**  
 Fall. 3(3-0) May reenroll for a maximum of 9 credits. Sophomores.  
 Selected issues in American life past and present, with materials drawn from such disciplines as history, social sciences, philosophy, literature and the arts. Topics vary.

**378. Popular Culture and Technical Change**  
 Winter. 4(4-0) Juniors or approval of department. Interdepartmental with and administered by Lyman Briggs School.  
 Interrelationships among elements of mass culture and technical change. Introduction to relevant research methods.

**410. Perspectives in American Studies**  
 Winter. 3(3-0) Juniors, approval of American Studies adviser.  
 Methods and significant works, for majors in the American Studies program. Offered by members of the relevant departments.

**411. Problems in American Civilization**  
 Spring. 3(3-0) May reenroll for a maximum of 6 credits if different topic is taken. Juniors, approval of American Studies adviser.  
 Seminar approach to selected problems in American life employing the objectives and approaches of interdisciplinary studies. Offered by members of relevant departments, for majors in the American Studies program.

**AMERICAN THOUGHT AND LANGUAGE ATL**

**College of Arts and Letters**  
 To satisfy the University General Education requirement, a student must take one course in each of the following groups. No courses may be taken for elective credit.  
 1. 1144, 121, 131, 141, 151, 161, 171, 181, 191H  
 2. 1154, 122, 132, 142, 152, 162, 172, 182, 192H  
 3. 1164, 123, 133, 143, 153, 163, 173, 183, 193H

**0142. Writing Laboratory I**  
 Fall, Winter, Spring. 0(0-2) [2(2-0) See page A-1 item 3.] ATL 0991 or admission by placement test; ATL 1144 concurrently.  
 An individualized program to develop composition skills by aiding students to discover how language functions in communication and by helping them to accept responsibility for learning to write correctly.

**0152. Writing Laboratory II**  
 Fall, Winter, Spring. 0(0-2) [2(2-0) See page A-1 item 3.] ATL 0142, ATL 1144 or approval of department; ATL 1154 concurrently. Continuation of ATL 0142.

**0162. Writing Laboratory III**  
 Fall, Winter, Spring. 0(0-2) [2(2-0) See page A-1 item 3.] ATL 0152, ATL 1154 or approval of department; ATL 1164 concurrently. Continuation of ATL 0152.

**0991. Preparatory Writing Skills**  
 Fall, Winter, Spring, Summer. 0(3-0) [3(3-0) See page A-1 item 3.] Admission by placement test.  
 Instruction and practice in writing. Emphasis on mastery of fundamental skills needed for a variety of writing assignments.

**104. Writing for Science Majors**  
 Fall. 3(3-0) Satisfactory grade in English proficiency exam; College of Natural Science majors. Interdepartmental with and administered by the Department of English.  
 Writing workshop for science students that develops and refines composition ability.

**105. The Scientist as Writer**  
 Winter. 3(3-0) ENG 104. Interdepartmental with and administered by the Department of English.  
 Study of various types of writing by scientists—fiction, poetry, and autobiography as well as professional papers and books. Students will write frequently about the readings.

**106. Introductory Scientific Writing**  
 Spring. 3(3-0) ENG 105. Interdepartmental with and administered by the Department of English.  
 Writing of popular essays, scientific papers and reports, and other papers related to science.

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