

## Descriptions – Agriculture and Natural Resources

### of Courses

#### 341. Energy in the Food System

(AG 341.) Winter. 3(3-0) Juniors or approval of department. Interdepartmental with and administered by Agricultural Engineering Technology.

Energy flow in the food system. Conversion principles and processes—solar, engines, fertilizers, pesticides, electrical, waste heat utilization. Environmental considerations, economic and social implications related to the food system. Alternatives. Conservation.

#### 350. Leadership Development for Agriculture and Natural Resources

(AG 350.) Winter, Spring. 3(3-0) May reenroll for a maximum of 6 credits. Approval of department.

Leadership development. Preparation for community leadership. Firsthand look at social, economic, and political problems. Series of seminars, interviews, field trips. Emphasis on awareness, action, and involvement. Field trips required.

#### 399. Professional Internships in Agriculture and Natural Resources

(AG 399.) 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.

#### 401. Agriculture and Natural Resources Communications

(AG 401.) Fall, Winter, Spring. 3(2-2) JRN 201 or other writing course and approval of department.

Techniques, strategies and practices in development of agricultural and natural resources information programs. Including writing, public relations, TV and radio production for specialized and general audiences.

#### 402. Agriculture and Natural Resources Communications Internship

(AG 402.) Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits. ANR 401, approval of college.

Internship with professionals in communications field with emphasis on student's areas of interest—writing, radio, TV, publications, etc.

#### 410. Environmental Toxicology

(AG 410.) 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

(AG 425.) 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.

#### 444. Pest Management I: Systems Management for Plant Protection

(AG 444.) Fall. 4(3-2) FSM 200 or EC 201. 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.

#### 445. Pest Management II: Pesticide Chemistry and Application Systems for Plant Protection

Winter. 5(3-4) CEM 132. 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 III: Biological Systems for Plant Protection

Spring. 3(3-0) ENT 425, BOT 405, HRT 402 or CSS 402. Interdepartmental with and administered by the College of Natural Science.

Management of plant pests utilizing host resistance, cultural practices, legislation, and biological systems.

#### 450. Natural Resource Administration

(N R 450.) 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

(N R 455.) 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

(AG 462.) 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

(AG 475.) 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

(N R 491.) 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.

#### 821. Agricultural Education in Rural Development

(ED 821F.) Winter. 3(3-0) Approval of department.

Agricultural education at various levels and in different forms for rural development. Formal and non-formal education: planning, conducting and evaluating. Case studies from selected developing countries.

#### 826. Methods of Teaching Agricultural Mechanics

(ED 830G.) Fall of odd-numbered years. 3(3-0) Approval of department.

Methods of instruction including program planning, scheduling, use of teaching aids, management of buildings, facilities and equipment; the selection, organization, and evaluation of activities in farm mechanics.

#### 828. Teaching Farmer Classes in Agriculture

(ED 828B.) Fall of even-numbered years. 3(3-0) Approval of department.

Objectives of adult education in agriculture, organizing and promoting classes, course planning, instructional procedures, follow-up and evaluation.

## 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.

**1144. Developmental Writing I**

Fall, Winter, Spring. 3(3-0) ATL 0991 or admission by placement test; ATL 0142 concurrently.

Students engage in expressive writing to respond to reading in clear and direct prose. Students write personal essays and read autobiographical materials, making use of college-level readings.

**1154. Developmental Writing II**

Fall, Winter, Spring. 3(3-0) ATL 0142, ATL 1144 or approval of department; ATL 0152 concurrently.

Interpretive, analytical, and expository writing in response to college-level readings.

**1164. Developmental Writing III**

Fall, Winter, Spring. 3(3-0) ATL 0152, ATL 1154 or approval of department; ATL 0162 concurrently.

Students write analytical/critical/persuasive papers and undertake a research project. Reading of college-level materials.

**117. Use of Libraries**

Fall, Winter. 1(1-0)

The use of libraries, with emphasis on MSU Library. Course will stress knowledge and use of bibliographic and reference resources.

**121. Writing: American Expression**

Fall, Winter, Spring, Summer. 3(3-0) Satisfactory performance on the placement test.

Writing course to improve composition and critical reading abilities. Writings based on American literary and historical materials from Puritan times through the Enlightenment. Emphasis on unity and structure of essays.

**122. Writing: American Expression**

Fall, Winter, Spring, Summer. 3(3-0) Three credits in the first term of any ATL sequence numbered 121 or higher or approval of department.

Writing course to improve composition and critical reading abilities. Writings based on American literary and historical materials of the nineteenth century. Emphasis on style and development of essays.

**123. Writing: American Expression**

Fall, Winter, Spring, Summer. 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 research abilities. Writings based on American literary and historical materials of the twentieth century. Research project required.

**131. Writing: Major Currents in American Experience**

Fall. 3(3-0) Satisfactory performance on the placement test.

Writing course to improve composition and critical reading abilities. Writings based on materials concerning the individual's search for meaning in America. Emphasis on unity and structure of essays.

**132. Writing: Major Currents in American Experience**

Winter. 3(3-0) Three credits in the first term of any ATL sequence numbered 121 or higher or approval of department.

Writing course to improve composition and critical reading abilities. Writings based on materials concerning American dreams and realities. Emphasis on style and development of essays.

**133. Writing: Major Currents in American Experience**

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 research abilities. Writings based on materials concerning cultural pluralism in America. Research project required.

**141. Writing: American Humanities**

Fall. 3(3-0) Satisfactory performance on the placement test.

Writing course to improve composition and critical reading abilities. Writings based on American literature, painting, music, and architecture before 1800. Emphasis upon unity and structure of essays.

**142. Writing: American Humanities**

Winter. 3(3-0) Three credits in the first term of any ATL sequence numbered 121 or higher or approval of department.

Writing course to improve composition and critical reading abilities. Writings based on American literature, painting, music, architecture and sculpture of the nineteenth century. Emphasis upon unity and development of essays.

**143. Writing: American Humanities**

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 research abilities. Writings based on innovation in twentieth century American literature and the visual, plastic, musical, and dramatic arts. Research project required.

**151. Writing: American Minorities**

Fall. 3(3-0) Satisfactory performance on the placement test.

Writing course to improve composition and critical reading abilities. Writings based on minority literature from mythology to experiences of immigrants and ex-slaves. Emphasis upon unity and structure of essays.

**152. Writing: American Minorities**

Winter. 3(3-0) Three credits in the first term of any ATL sequence numbered 121 or higher or approval of department.

Writing course to improve composition and critical reading abilities. Writings based on minority literature from Reconstruction, Indian wars and end of European immigration. Emphasis upon style and development of essays.

**153. Writing: American Minorities**

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 research abilities. Writings based on minority literature. Modern fiction and cultural pluralism emphasized; a research project is required.

**161. Writing: American Radical Thought**

Fall. 3(3-0) Satisfactory performance on the placement test.

Writing course to improve composition and critical reading abilities. Writings based on dissenting thought from the colonial to the early national period. Emphasis upon unity and structure of essays.