

Descriptions – Agricultural Engineering of Courses

416. Light Structural Systems
(A E 416.) Fall. 4(4-0) PHY 237 or approval of department.
Functional planning of animal structures. Properties of building materials and selecting building components to satisfy requirements of light structures.

421. Electrical Energy Utilization
(A E 421.) Spring. 4(3-2) PHY 238 or approval of department.
Efficient utilization of electrical energy; selection, operation and control of electrical equipment. Design of electrical systems.

431. Irrigation, Drainage and Erosion Control Systems
(A E 431.) Spring. 4(3-2) CSS 210 or approval of department.
Use of surveying, design, construction and cost estimates of drainage irrigation and water control systems.

443. Machinery and Tractor Systems
(A E 443.) Fall, Spring. 4(3-2) A E 243 or approval of department.
Characteristics of basic agricultural field machinery. Diesel engine, fuel injection and combustion chamber characteristics. Torque and power transmission, tractor stability and implement hitching.

480. Special Problems
Fall, Winter, Spring, Summer. 1 to 5 credits. May reenroll for a maximum of 5 credits. Approval of department.
Individual student research and study in: agricultural machines and tractors, waste management, food processing, structures and environment, materials processing and handling, water management, meteorology and climatology, agricultural systems analysis.

Building Construction B C

200. Dynamics of American Housing
Fall, Winter, Spring, Summer. 3(3-0)
Impact of housing on the economic and social welfare of America. Analysis of the residential building industry and its problems in providing adequate housing.

312. Structural Design
Fall. 4(4-0) B C 200 or approval of department.
Consideration of structural design systems as used in light construction.

412. Housing Utilities Design
Winter. 4(4-0)
Design of and planning for mechanical and electrical utilities in housing.

413. Residential Construction Systems
Spring. 4(3-2) B C 312 or approval of department.
Analysis of the primary construction systems employed in the residential building industry, especially the economic and social aspects in meeting the housing goals of the U. S.

415. Building Materials
Spring. 4(4-0) B C 312 or approval of department.
Properties of building materials pertinent to their application and performance in service.

416. Building Costs
Winter. 4(2-4) Approval of department.
Methods of cost estimating. Effects of codes and production practices on costs.

417. Residential Finance
Winter. 4(4-0) Juniors.
Analysis of financial programs for the construction, rehabilitation, remodeling and purchase of homes; especially meeting the nation's goals for low to moderate income housing.

418. Special Problems
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Written approval of department.
Special problems in the areas of acquisition and development of residential land, design, construction technology, building materials, finance, marketing, construction management and land use codes and regulations.

420. Construction Management
Spring. 4(2-2) B C 416 or approval of department.
Systems management techniques for residential building organizations inclusive of organization development, operations, planning, scheduling and control, and administrative systems and procedures.

835. Research in Building Construction
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

899. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

350. Leadership Development for Agriculture and Natural Resources
Winter, Spring. 3(3-0) May reenroll for a maximum of 6 credits. Approval of department. Interdepartmental with Natural Resources.
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. Agriculture Internship
Fall, Winter, Spring, Summer. Zero to 10 credits. (10 credits.) See page A-2, item 3.) Juniors and approval of department. Interdepartmental with Natural Resources.
Professionalized experiences in a student's major. Supervision and evaluation by faculty and cooperating agencies.

401. Agriculture and Natural Resources Communications
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
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits, AG 401, approval of college
Internship with professionals in communications field with emphasis on student's areas of interest—writing, radio, TV, publications, etc.

425. Agriculture and Natural Resources Seminar
Spring. 2(2-0) Interdepartmental with Natural Resources.
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
(437.) 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
(435.) 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
(436.) Spring. 3(3-0) ENT 430, 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.

AGRICULTURE AG

College of Agriculture and Natural Resources

124A. Introduction to Careers in Vocational and Practical Arts Education-Agriculture
Fall. 2(1-2) Interdepartmental with and administered by the College of Education.

275. Exploring International Agriculture
Spring. 3(3-0) Interdepartmental with Natural Resources.
Exploration of overseas assignments with international agencies; potential world food actualities and potentialities; special problems of the tropics compared with those in temperate regions.

341. Energy in the Food System
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.

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 and 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. Interdepartmental with Natural Resources. 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.

IDC. The Impact of Animal Resource Management Upon the World's Developing Nations
For course description, see Interdisciplinary Courses.

AMERICAN STUDIES AMS

College of Arts and Letters

301. Issues in American Civilization
Fall, Winter, Spring. 3(3-0) May reenroll for a maximum of 9 credits. Not applicable to major requirements. 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.

410. Perspectives in American Studies
Fall. 3 credits. Juniors in American Studies or approval of American Studies Committee. Methods and significant works for majors in the American Studies program. Offered by members of the relevant departments.

411. Problems in American Civilization
Winter, Spring. 3 credits. Majors must reenroll for a maximum of 6 credits. AMS 410, Juniors in American Studies or approval of American Studies Committee. 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

University College

To satisfy the University General Education requirement, a student must take one course in each of the following groups. Additional courses may be taken for elective credit.
1. 121 or 121E, 131, 141, 151, 161, 171, 181, 191H
2. 122 or 122E, 132, 142, 152, 162, 172, 182, 192H
3. 123 or 123E, 133, 143, 153, 163, 173, 183, 193H

101A. Comprehensive English
Fall, Winter, Spring, Summer. 3(3-1) Admission by examination or approval of department. Students may not receive credit in more than one of the following courses: ATL 101A, ATL 101B, ATL 101E. Instruction and practice in reading and writing. Emphasis upon mastery of fundamental skills needed for a variety of reading and writing assignments.

101B. Comprehensive English
Fall, Winter, Spring, Summer. 3(3-1) Admission by examination or approval of department. Students may not receive credit in more than one of the following courses: ATL 101A, ATL 101B, ATL 101E. Instruction and practice in reading and writing. Instruction in reading is emphasized.

101E. Comprehensive English - Experimental
Fall. 3 credits. Admission by examination or approval of department. Students may not receive credit in more than one of the following courses: ATL 101A, ATL 101B, ATL 101E. Instruction and practice in reading and writing. Approved through Spring 1981.

102. Comprehensive English
Fall, Winter, Spring, Summer. 3(3-1) ATL 101A or ATL 101B or approval of department. Students may not receive credit in both ATL 102 and ATL 102E. Continuation of ATL 101 with emphasis on writing and reading.

102E. Comprehensive English - Experimental
Winter. 3 credits. ATL 101E or approval of department. Students may not receive credit in both ATL 102 and ATL 102E. Continuation of ATL 101E. Approved through Spring 1981.

103. Comprehensive English
Fall, Winter, Spring, Summer. 3(3-1) ATL 102 or approval of department. Students may not receive credit in both ATL 103 and ATL 103E. Continuation of ATL 102 with emphasis on reading and writing on American cultural topics.

103E. Comprehensive English - Experimental
Spring. 3 credits. ATL 102E or approval of department. Students may not receive credit in both ATL 103 and ATL 103E. Continuation of ATL 102E. Approved through Spring 1981.

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. American Expression
Fall, Winter, Spring, Summer. 3(3-0) Satisfactory grade on English proficiency examination or in Comprehensive English. Students may not receive credit in both ATL 121 and ATL 121E. Aims to improve the student's ability to read and write and to acquaint him with his American heritage. Selected reading and theme topics.

121E. American Expression - Experimental
Fall. 3 credits. Admission by examination or approval of department. Students may not receive credit in both ATL 121 and ATL 121E. Approved through Spring 1981.

122. American Expression
Fall, Winter, Spring, Summer. 3(3-0) Three credits in the first term of any ATL sequence numbered ATL 121 or above; or satisfactory performance in Comprehensive English. Students may not receive credit in both ATL 122 and ATL 122E. Aims to improve the student's ability to read and write, and to acquaint him with his American heritage. Selected reading and theme topics.

122E. American Expression - Experimental
Winter. 3 credits. Completion of ATL 121E or approval of department. Students may not receive credit in both ATL 122 and ATL 122E. Approved through Spring 1981.

123. American Expression
Fall, Winter, Spring, Summer. 3(3-0) Three credits in the second term of any ATL sequence numbered ATL 121 or above; or satisfactory performance in Comprehensive English. Students may not receive credit in both ATL 123 and ATL 123E. Aims to improve the student's ability to read and write, and to acquaint him with his American heritage. Selected reading and theme topics.

123E. American Expression - Experimental
Spring. 3 credits. Completion of ATL 122E or approval of department. Students may not receive credit in both ATL 123 and ATL 123E. Approved through Spring 1981.

131. Major Currents in American Experience
Fall, Winter, Spring, Summer. 3(3-0) Satisfactory grade on English proficiency examination or in Comprehensive English. Investigation into the significance Americans place on individual search for meaning and its effect on our American heritage. Subject matter is the focus for improving reading and writing abilities.

132. Major Currents in American Experience
Fall, Winter, Spring, Summer. 3(3-0) Three credits in the first term of any ATL sequence numbered ATL 121 or above; or satisfactory performance in Comprehensive English. The dreams and realities by which Americans have been inspired and betrayed are emphasized. Subject matter is the focus for improving reading and writing abilities.

133. Major Currents in American Experience
Fall, Winter, Spring, Summer. 3(3-0) Three credits in the second term of any ATL sequence numbered ATL 121 or above; or satisfactory performance in Comprehensive English. Literary and historical study of the major cultural confrontations among groups and subcultures in American's heterogenous society. Subject matter is the focus for improving reading and writing abilities.