Academic Programs

College of Agriculture and Natural Resources

Department of Community, Agriculture, Recreation and Resource Studies (Community Sustainability, effective July 1, 2013)

Undergraduate Programs

Environmental Studies and Agriscience

The Department of Community, Agriculture, Recreation and Resource Studies offers a Bachelor of Science degree program with a major in Environmental Studies and Agriscience. This program of study is concerned with who uses resources, how they use them, and how positive outcomes of use can be enhanced and negative impacts can be mitigated. The program is designed to educate a diverse assembly of professionals who will work across disciplines and at many levels to provide expertise and leadership in agricultural, environmental and natural resource professions. Students benefit from a broad range of interdisciplinary courses, as well as disciplinary courses carefully selected to enhance students’ technical knowledge. Professional internships and study abroad experiences are encouraged to provide students with experiences beyond the classroom and the campus. Graduates of this program will be prepared to enter professions in environmental, natural resource and agricultural fields through careers in education, government, private industry, non-profit organizations, and public relations and communications or enter a professional or graduate school program upon completion of the bachelor’s degree.

Students focus their studies by completing one of the interdisciplinary professional concentrations within the major designed to provide additional breadth and depth.

Requirements for the Bachelor of Science Degree in Environmental Studies and Agriscience

1. The University requirements for bachelor’s degrees as described in the Undergraduate Education section of this catalog: 120 credits, including general elective credits, are required for the Bachelor of Science degree in Environmental Studies and Agriscience.

The University’s Tier II writing requirement for the Environmental Studies and Agriscience major is met by completing Environmental Studies and Agriscience 401, 413 or 420. Those courses are referenced in item 3. b. below.

Students who are enrolled in the Environmental Studies and Agriscience major leading to the Bachelor of Science degree in the Department of Community, Agriculture, Recreation and Resource Studies may complete an alternative track to Integrative Studies in Biological and Physical Sciences that consists of the following courses: Biological Science 162 and 172, and Chemistry 141. The completion of Biological Science 172 satisfies the laboratory requirement. Biological Science 162 and 172, and Chemistry 141 may be counted toward both the alternative track and the requirements for the major referenced in item 3. below.

The completion of the College of Agriculture and Natural Resources mathematics requirement may also satisfy the University mathematics requirement.

2. The requirements for the College of Agriculture and Natural Resources for the Bachelor of Science degree.

Certain courses referenced in requirement 3. below may be counted toward College requirements as appropriate.

3. The following requirements for the major:

a. All of the following courses (16 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACR 202</td>
<td>Problem Solving in Community, Agriculture, and Environmental Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACR 205</td>
<td>Agriculture and Natural Resources Communication Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>ACR 492</td>
<td>Senior Seminar</td>
<td>1</td>
</tr>
<tr>
<td>ESA 200</td>
<td>Introduction to Environmental Studies and Agriscience</td>
<td></td>
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<tr>
<td>ESA 312</td>
<td>Principles of Leadership for Environmental and Agriscience Professionals</td>
<td>3</td>
</tr>
<tr>
<td>ZOL 355</td>
<td>Ecology</td>
<td>3</td>
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</tbody>
</table>

b. One of the following courses (3 credits):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ESA 401</td>
<td>Communications Campaigns for Agricultural and Environmental Issues (W)</td>
<td>3</td>
</tr>
</tbody>
</table>
c. One of the following courses (3 or 4 credits):
   COM 300 Methods of Communication Inquiry 4
   PSY 295 Data Analysis in Psychological Research 3
   STT 200 Statistical Methods 3
   STT 201 Statistical Methods 4
   STT 224 Introduction to Probability and Statistics for Ecologists 3

d. One of the following courses (3 or 4 credits):
   CSS 210 Fundamentals of Soil Science 3
   GLG 201 The Dynamic Earth 4
   Students selecting the Teacher Education in Agriscience and Natural Resources concentration must complete Crop and Soil Science 210.

e. One of the following courses (3 credits):
   ABM 100 Decision-making in the Agri-Food System 3
   ABM 130 Farm Management I 3
   EEP 255 Ecological Economics 3
   Students selecting the Teacher Education in Agriscience and Natural Resources concentration must complete Agribusiness Management 130.

f. One of the following courses (3 or 4 credits):
   ANS 110 Introductory Animal Agriculture 4
   FW 101 Fundamentals of Fisheries and Wildlife Ecology and Management 3
   ZOL 313 Animal Behavior 3
   Students selecting the Teacher Education in Agriscience and Natural Resources concentration must complete Animal Science 110.

g. One of the following courses (2 to 4 credits):
   CSS 101 Introduction to Crop Science 3
   FOR 202 Introduction to Forestry 3
   FOR 204 Forest Vegetation 4
   HRT 203 Principles of Horticulture 2
   PLB 105 Plant Biology 3
   Students selecting the Teacher Education in Agriscience and Natural Resources concentration must complete both Crop and Soil Science 101 and Horticulture 203.

h. One of the following courses or fulfillment of an experiential education experience (3 to 6 credits):
   ESA 475 Agriscience and Natural Resources Studies Abroad 3
   ESA 480 Environmental Studies Abroad 3
   ESA 493 Professional Internship 3 to 6
Completion of an experiential education course approved by the department.  
Up to 1,000 hours of the 4,000 required hours of relevant work experience for the vocational education endorsement may be competed through a planned program of directed and supervised work experience through Michigan State University. Students selecting the Teacher Education in Agriscience and Natural Resources concentration who apply 3 credits of Environmental Studies and Agriscience 493 to complete the experiential education requirement in item 3.h. above may not apply those hours to fulfill the vocational endorsement requirement.

i. An additional 6 credits at the 300-level or above 6
Students may select courses from the College of Agriculture and Natural Resources, the College of Natural Science, the College of Social Science, or others as approved by the student’s advisor. The courses used to satisfy requirements in items 3. c. through 3. i. may not be used to satisfy any other requirement for the major.

j. Concentration (19 to 24 credits):
Students must select one of the following concentrations: Communication; Community Engagement and Education; Science and Policy, or Teacher Education in Agriscience and Natural Resources.

**Communication**

Students who select the Communication concentration will be prepared for careers in agricultural, natural resource, and environmental journalism, public relations, advertising, or marketing communications. Professionals combine agriculture, natural resource and environmental subject-matter knowledge with skills in writing, speaking, layout and design, and information management. Colleges, advertising and public relations agencies, trade associations, government agencies, extension services, and corporations need professionals who can work in this field. Success in these organizations may lead to positions as editors, advertising account supervisors, public relations directors, and marketing communications managers.

1. The following course (3 credits):
   JRN 200 Gathering and Writing News 3
2. One of the following courses (3 credits):
   WRA 320 Technical Writing (W) 3
   WRA 341 Writing Nature and the Nature of Writing 3
3. Four of the following courses (12 to 13 credits):
   COM 240 Introduction to Organizational Communication 4
   COM 275 Effects of Mass Communication 3
   COM 325 Interpersonal Influence and Conflict 3
   ESA 412 Special Topics in Leadership and Education 3
   ESA 420 Risk and Decision Science for Environmental and Natural Resource Management (W) 3
Community Engagement and Education

Students who select the Community Engagement and Education concentration will develop and conduct educational programs in non-formal settings, assist with formal, school-based educational programs, organize workshops and seminars, develop leadership programs for agribusiness, government agencies, recreation organizations and non-profits, and design environment, natural resource, agriculture, and recreation education and outreach programs for adults and youth in a variety of settings. There are many professional opportunities in non-profit organizations, trade associations, and federal, state and local government agencies, as well as volunteerism.

1. All of the following courses (13 credits):
   - ACR 415 Program Planning and Evaluation 3
   - ESA 335 Engaged Learning and Teaching 3
   - ESA 434 Professional Skills for Nonformal Educators 3
   - ESA 435 Conservation Education 3
   - ESA 436 Conservation Education Practice 1

2. Two of the following courses (6 credits):
   - ESA 412 Special Topics in Leadership and Education 3
   - ESA 413 Grantwriting and Fund Development (W) 3
   - PRR 451 Interpretation and Visitor Information Systems 3
   - TSM 251 Information Technology in Agricultural Systems 3

Science and Policy

Students who select the Science and Policy concentration will build a strong, interdisciplinary foundation in science and policy related to the environment, natural resources and agriculture. Students may focus on agriscience and policy, or they may choose to focus on environmental science and policy. Creatively combining course work in environmental science and agriscience will also prepare students for leadership roles in an increasingly complex field. Students who select this concentration will find careers in federal, state and local government, nonprofit organizations and trade associations, and private industry and consulting.

1. One of the following courses (3 or 4 credits):
   - CSS 210 Fundamentals of Soil Science 3
   - GLG 201 The Dynamic Earth 4

   The course used to satisfy the major requirements may not be used to satisfy this requirement.

2. One of the following courses (3 credits):
ABM 400 Public Policy Issues in the Agri-Food System 3
ESA 440 Environmental and Natural Resource Policy in Michigan 3
ESA 444 Pesticides, People and Politics 3
FOR 466 Natural Resource Policy 3

3. Two of the following courses (6 credits):
   ABM 430 Farm Management II 3
   ESA 430 Environmental and Natural Resource Law 3
   ESA 460 Natural Resource Economics 3
   PRR 302 Environmental Attitudes and Concepts 3

4. Two of the following courses (6 to 8 credits):
   ACR 415 Program Planning and Evaluation 3
   ANS 418 Comprehensive Nutrient Management Planning 3
   ESA 324 Water Resource Management 3
   ESA 415 Environmental Impact Assessment 4
   ESA 450 Smart Growth and Strategic Land Use Decision Making 3
   ESA 452 Watershed Concepts 3
   FW 419 Applications of Geographic Information Systems to Natural Resources Management 4
   GEO 221 Introduction to Geographic Information 3
   GEO 325 Geographic Information Systems 3
   UP 353 Land Use Planning 4
   UP 400 Special Topics in Urban Planning 3

Students may not use both Environmental Studies and Agriscience 324 and 452 to fulfill this requirement.
Students may not use both Fisheries and Wildlife 419 and Geography 221 to fulfill this requirement.

5. One of the following courses (3 credits):
   ESA 343 Community Food and Agricultural Systems 3
   ESA 470 Theory and Practice in Community and Economic Development 3
   HRT 486 Biotechnology in Agriculture: Applications and Ethical Issues 3

Teacher Education in Agriscience and Natural Resources 3

The Teacher Education in Agriscience and Natural Resources concentration combines with the Bachelor of Science degree in Environmental Studies and Agriscience to prepare students for teacher certification. Students who complete the requirements for the Teacher Education in Agriscience and Natural Resources concentration, the requirements for teacher certification, and a minimum of 4000 hours of recent and relevant work experience are recommended for career and technical endorsement in agricultural education.

1. All of the following courses (21 credits):
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE 150</td>
<td>Reflections on Learning</td>
<td>3</td>
</tr>
<tr>
<td>TE 250</td>
<td>Human Diversity, Power, and Opportunity in Social Institutions</td>
<td>3</td>
</tr>
<tr>
<td>TE 302</td>
<td>Learners and Learning in Context - Secondary (W)</td>
<td>4</td>
</tr>
<tr>
<td>TE 407</td>
<td>Teaching Subject Matter to Diverse Learners - Secondary (W)</td>
<td>5</td>
</tr>
<tr>
<td>TE 408</td>
<td>Crafting Teaching Practices - Secondary (W)</td>
<td>6</td>
</tr>
</tbody>
</table>

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