# Conservation Ecology

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
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<tbody>
<tr>
<td>Conservation Ecology Core</td>
<td>3 Conservation Ecology specialization courses selected in consultation with your advisor</td>
<td>9-12 credit hours</td>
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<tr>
<td>SEAS Core</td>
<td>EAS 509 (Natural Systems Core)</td>
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<td>EAS 510 (Social Systems Core)</td>
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<td>IAMS Requirement</td>
<td>Two courses; 3CR minimum</td>
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<td>Please see 3rd page for approved courses.</td>
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<td>Electives</td>
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<td></td>
<td>Must be a graduate level course at 400-level and above</td>
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<td>Analytics</td>
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<td>EAS 538 (or equivalent) plus one additional analytics course</td>
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<td>Check analytics list for acceptable courses.</td>
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<td>Opus or Non-Opus</td>
<td>Opus</td>
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<td>Option 1: At most 6 credit hours of EAS 700/ EAS 701</td>
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<td>Non-Opus</td>
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<td>Option 2: 6-8 credits of CE approved courses. See advisor for non-opus guidance.</td>
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<td>Cognates</td>
<td>Minimum 4 credit hours outside of SEAS [Rackham requirement]</td>
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<td>Can be double counted with other degree requirements.</td>
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<td><strong>TOTALS</strong></td>
<td><strong>TOTAL “EAS” CREDIT HOURS</strong></td>
<td>Minimum 25 of 42 credit hours</td>
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<td><strong>TOTAL CREDIT HOURS</strong></td>
<td>Minimum of 42 credit hours</td>
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*Any waiver or substitution of degree requirement must be approved by the appropriate faculty and submitted to OAP.*
Conservation Ecology Courses

EAS 409/ENV 409/EEB 487 Ecology of Fishes (W)
EAS/ENV/EEB 430 Soil Ecology (F)
EAS/ENV/EEB 436 Woody Plants (F)
EAS/EEB 451 Biology of Mammals (W)
EAS 476/ENV 476/EEB 476 Ecosystem Ecology (W)
EAS 501.038 Foundations of Sustainable Food Systems (F)
EAS 501.038 Agroecosystem Management (W)
EAS 501.001 Fire Ecology (W)
EAS 501.046 Science and Management of the Great Lakes (W)
EAS 508 Wetland Ecology (W)
EAS 517 Conservation Biology (W)
EAS 518 Wildlife Ecology & Conservation (W)
EAS 520 Fluvial Ecosystems (F)
EAS 521 Fluvial Ecosystems Lab (F)
EAS 523 Ecological Risk Assessment
EAS 531 Principles of GIS (*This course should be taken before EAS 534 or any other SEAS GIS courses)
EAS 534 GIS and Landscape Modeling (F)
EAS 539 Landscape Ecology
EAS 545 Applied Ecosystem Modeling (F)
EAS 541 Remote Sensing (W)
EAS 547 Forest Ecology (F)
EAS 552 Ecosystem Services (F)
EAS 553 Diverse Farming Systems (F)
EAS 556/EEB 477 Field Ecology (F)
EAS 561 Psychology of Environmental Stewardship (W)
EAS 562 Environmental Policy, Politics and Organizations (F)
EAS 563 International Environmental Policy (W)
EAS 570 Environ Econ: Quantitative Methods and Tools (F)
EAS 589 Ecological Restoration (W)
EAS 592/URP 542 Environmental Planning (F)
EAS 639 Graduate Seminars (e.g. Watershed Planning, Modeling River Environments, others as announced)

EARTH 417 Geology of the Great Lakes (W)
EARTH 449 Marine Geology (W)
EARTH 477/ENviron 479 Hydrogeology (F)
CEE 520 Physical Processes of Land-Surface Hydrology (W)
CEE 521 Flow in Open Channels (F)
CEE 522 Sediment Transport (F)
CEE 527 Coastal Hydraulics (F)
CEE 624 Restoration Concepts
CLIMATE 401/EARTH 401 Geophysical Fluid Dynamics (F)
EEB 442 Biology of Insects (UMBS) (S)
EEB 445 Biogeography (W)
EEB 453 Mammalogy (UMBS) (S)
EEB 457 Algae in Freshwater Systems (UMBS) (Su)
EEB 463 Neotropical Plants (W)
EEB 468 Biology of Fungi (F)
EEB 470 Microbial Diversity
EEB 483 Freshwater Ecosystems (F)
EEB 485 Population and Community Ecology
EEB 486 Biology and Ecology of Fishes (UMBS) (Su)
EEB 498 Agroecosystems (F)
EEB 556 Field Botany of Northern Michigan (UMBS) (Su)
Integrated Analytic Methods and Skills Requirement

Students are required, at some point during their time enrolled in the program, to take 2 courses composing at least 3 credits from a faculty-approved list of courses that focus on integrative analytic methods and skills. The faculty-approved existing courses that satisfy this requirement are listed below:

**Fall**

501 – Social Vulnerability & Adaptation to Environ Change  
530 - Decision-Making for Sustainability  
578 – Urban Stormwater  
552 – Ecosystem Services  
572 – Environmental Impact Assessment  
533 – Negotiation Skills  
536 – Mediation Skills  
548 – Land Use and Global Change  
570 – Environmental Economics  
597 – Environmental Systems Analysis  
564 – Localization Seminar  
677 – Climate Adaptation Seminar  
687 – Landscape Planning

**Winter**

501 – Stakeholder Network Analysis  
501 – Science and Management of the Great Lakes  
545 - Applied Ecosystem Modeling  
550 – Systems Thinking for Sustainable Development  
557 – Industrial Ecology  
581 – Advanced Environmental Education  
589 – Ecological Restoration  
610 – Advanced LCA Methods and Software Tools  
641 – Interdisciplinary Research Methods  
787 – Metro Studio (MLA only)