### Summary of Requirements for a Master of Science (MS) Degree Effective Fall 2019

#### Conservation Ecology Core

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>*EAS 507 – Interpreting Research in Conservation Ecology</td>
<td></td>
<td>507</td>
<td>3</td>
<td>W</td>
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<tr>
<td>3 Conservation Ecology Core specialization courses selected in consultation with your advisor</td>
<td>9-12 credits</td>
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#### SEAS Core

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<tr>
<td>EAS 510 (Social Systems Core)</td>
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<tr>
<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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#### Electives

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<tr>
<td>Electives</td>
<td>Must be a graduate level course at 400-level and above</td>
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#### Analytics

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<tr>
<td>Analytics</td>
<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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#### Opus or Non-Opus

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<tr>
<td>Opus</td>
<td>Option 1: At most 12 credits of EAS 700 (Master’s Thesis) At most 6 credit hours of EAS 701 (Master’s Project) or EAS 702 (Master’s Practicum)</td>
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<tr>
<td>Non-Opus</td>
<td>Option 2: 6-8 credits of CE approved courses. See advisor for non-opus guidance.</td>
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#### TOTALS

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<tr>
<td>TOTAL “EAS” CREDIT HOURS</td>
<td>Minimum 25 of 42 credit hours</td>
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<td>TOTAL CREDIT HOURS</td>
<td>Minimum of 42 credit hours</td>
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- EAS 507 is not required for students admitted prior to Fall 2019
Conservation Ecology Courses

EAS 409/ENV 409/EEB 487 Ecology of Fishes
EAS/ENV/EEB 430 Soil Ecology
EAS/ENV/EEB 436 Woody Plants
EAS 447 Forest Ecology Management
EAS/EEB 451 Biology of Mammals
EAS 476/ENV 476/EEB 476 Ecosystem Ecology
EAS 501 Ecological Restoration Applications
EAS 501.034 Field Remote Sensing & Analysis (UMBS)
EAS 501.040 Climate Change vs. Everything Else
EAS 501.077 Multivariate statistics for environmental science (starts Fall 2020)
EAS 507 Interpreting Research in Conservation Ecology (Winter)
EAS 524 Agroecosystem Management
EAS 501.025 Science and Management of the Great Lakes
EAS 517 Conservation Biology
EAS 518 Wildlife Ecology & Conservation
EAS 520 Fluvial Ecosystems
EAS 521 Fluvial Ecosystems Lab
EAS 523 Ecological Risk Assessment
EAS 528 Foundations for Sustainable Food Systems
EAS 531 Principles of GIS (Should be taken before EAS 534 or any other SEAS GIS courses)
EAS 534 GIS and Landscape Modeling
EAS 539 Landscape Ecology
EAS 545 Applied Ecosystem Modeling
EAS 541 Remote Sensing
EAS 552 Ecosystem Services
EAS 553 Diverse Farming Systems
EAS 556/EEB 477 Field Ecology
EAS 561 Psychology of Environmental Stewardship
EAS 562 Environmental Policy, Politics and Organizations
EAS 563 International Environmental Policy
EAS 570 Environ Econ: Quantitative Methods and Tools
EAS 578 Urban Stormwater
EAS 589 Ecological Restoration
EAS 592/URP 542 Environmental Planning
EAS 639 Graduate Seminars (e.g. Watershed Planning, Modeling River Environments, etc.)
EARTH 417 Geology of the Great Lakes
EARTH 449 Marine Geology
EARTH 477/ENVIRON 479 Hydrogeology
ENVIRON 463 Michigan Fishes in Changing Environments (UMBS)
CEE 520 Physical Processes of Land-Surface Hydrology
CEE 521 Flow in Open Channels
CEE 522 Sediment Transport
CEE 527 Coastal Hydraulics
CEE 624 Restoration Concepts
CLIMATE 401/EARTH 401 Geophysical Fluid Dynamics
EEB 442 Biology of Insects (UMBS)
EEB 445 Biogeography
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**

- 447 – Forest Ecology Management
- 501 – Ecological Restoration Applications
- 501.077 - Multivariate statistics for environmental science (starts 2020)
- 523 – Ecological Risk Assessment
- 530 - Decision-Making for Sustainability
- 531 – Principles of GIS
- 533 – Negotiation Skills
- 536 – Mediation Skills
- 552 – Ecosystem Services
- 553 – Diverse Farming Systems
- 564 – Localization Seminar
- 567 – Social Vulnerability & Adaptation to Environ Change
- 572 – Environmental Impact Assessment
- 570 – Environmental Economics
- 576 – Sustainability Finance
- 578 – Urban Stormwater (2 yr cycle)
- 597 – Environmental Systems Analysis
- 677 – Climate Adaptation Seminar
- 687 – Landscape Planning

**Winter**

- 501 – Science and Management of the Great Lakes
- 541 – Remote Sensing
- 545 - Applied Ecosystem Modeling (Winter B)
- 549 – Analysis and Modeling of Ecological Data
- 550 – Systems Thinking for Sustainable Development
- 557 – Industrial Ecology
- 569 – Stakeholder Network Analysis
- 581 – Advanced Education for Environment and Sustainability
- 589 – Ecological Restoration
- 610 – Advanced LCA Methods and Software Tools

Summary of Requirements for a Master of Science (MS) Degree Effective Fall 2019

08/07/2019
641 – Interdisciplinary Research Methods
787 – Metro Studio (MLA only)