<table>
<thead>
<tr>
<th>Requirements</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SS Core</strong> 15 credits total</td>
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<tr>
<td>6CR in Systems Analysis for Sustainability</td>
<td>See attached list (A1) of acceptable courses in this specialization</td>
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<tr>
<td>Sustainable Design &amp; Technology</td>
<td>See attached list (A2) of acceptable courses in this specialization</td>
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<tr>
<td>Minimum 3CR</td>
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<tr>
<td>Sustainable Enterprise</td>
<td>See attached list (A3) of acceptable courses in this specialization</td>
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<tr>
<td>Minimum 3CR</td>
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<tr>
<td>Additional 3CR minimum from list A1, 2, or 3</td>
<td>See attached list (A1-3) of acceptable courses in these specializations</td>
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<tr>
<td><strong>SEAS Core</strong></td>
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<tr>
<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 page 3 for approved courses.</td>
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<tr>
<td><strong>Analytics</strong></td>
<td>One statistics course.</td>
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<tr>
<td>[Field of Study-specific requirement]</td>
<td>See online list of acceptable statistics courses</td>
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<td><strong>Electives</strong></td>
<td>Electives</td>
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<tr>
<td>Graduate level course at 400-level or above.</td>
<td>See attached list of recommended courses.</td>
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<td><strong>Opus or Non-Opus</strong></td>
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<tr>
<td>Option 1: Master’s Project, Thesis or Practicum</td>
<td>At most 6 credit hours of EAS 701 (Master’s Project) or EAS 702 (Master’s Practicum) or At most 12 credits of EAS 700 (Master’s Thesis)</td>
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<tr>
<td>Option 2: Additional coursework</td>
<td>3CR from list A1,A2, or A3 or B1 and additional 3CR from approved sustainability course (eg B2). Needs to have a theme in the area you wish to gain additional knowledge. Needs advisor approval.</td>
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<td><strong>TOTALS</strong></td>
<td>TOTAL “EAS” CREDIT HOURS</td>
<td>Minimum 25 of 42 credit hours</td>
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<tr>
<td><strong>TOTAL CREDIT HOURS</strong></td>
<td>TOTAL CREDIT HOURS</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.*
A. Sustainable Systems Core (1-3)

1) Systems Analysis for Sustainability (at least 6CR*)

EAS 573 (3cr) Environmental Footprinting and Environmental Input-Output Analysis (W)
EAS 610 (1.5cr) Advanced LCA Methods & Software Tools (W)
EAS 597 (3cr) Environmental Systems Analysis (F)
EAS 557/CEE 586 (3cr) Industrial Ecology (W)
EAS 550/STRAT 566 (3cr) Systems Thinking for Sustainable Development (W)

*At least two courses need to be from the courses listed above

EAS 570 (3cr) Environ Economics: Quantitative Methods & Tools (F)
EAS 501 (1.5cr) Topics in Env. Economics
EAS 531 (4cr) Principles of GIS (F&W)

2) Sustainable Design & Technology (3CR)

EAS 537 (3CR) Urban Sustainability (F)
EAS 501.087 (3CR) Technology and Community Sustainable Development (F)
EAS 615 (3CR) Renewable Electricity and the Grid (W)
EAS 574/PUBPOL 519 (3cr) Sustainable Energy Systems (F)
EAS 605/BA 605 (3cr) Green Development (W)
EAS 677.023 (2) Deep Decarbonization
EAS 687 (4cr) Landscape Planning (F)
ARCH 575 (3cr) Building Ecology (F)
CEE 480 (3cr) Design of Environ Engineering Systems (F)
CEE 582 (3cr) Environmental Microbiology (F)
MECHENG 589 (3cr) Sustainable Design of Technology Systems (W)

3) Sustainable Enterprise (3CR)

EAS 530 (3cr) Decision-Making for Sustainability (F)
EAS 525 (3cr) Energy Justice (F)
EAS 535/BL 536 (2.25cr) Ethics Corporate Management (TBD)
EAS 512/Strategy 564 Strategies for Sustainable Development I (F)
EAS 513/Strategy 565 Strategies for Sustainable Development II (F)
EAS 527/BE 527 (3cr) Energy Markets and Energy Politics (F)
EAS 533 (3cr) Negotiation Skills (F)
EAS 595/TO 560 Sustainable Operations and Supply Chain Management (W)
BE 555 (1.5) Non-Market Strategy (F)
EAS 560/URP 544 (3cr) Behavior and Environment (F)
EAS 576/CEE 588/ChE 590 (3cr) Sustainability Finance: Investment Model for Green Growth (F)
ENGR 521 (3cr) CleanTech Entrepreneurship (W)
FIN 637 (2.25cr) Finance and Sustainable Enterprises (F)
FIN 583 (1.5cr) Energy Project Finance (W)

B. Sustainable Systems Electives

B1) Additional SS courses (can count towards Non-Opus option)

EAS 572(2cr) Environmental Impact Assessment (F)
EAS 523(3cr) Environmental Risk Assessment (W)
EAS 552 (3cr) Ecosystem Services (F)
EHS 672 (3cr) Life Cycle Assessment: Human Health & Environ Impacts (F)
EAS 686/HMP 686/PubPol 563 (3cr) Environmental Policy (W)
BA 612 (2.25cr) Strategies for the Base of the Pyramid (F)
ESENG 501 (3cr) Seminars in Energy Science, Technology, and Policy (F)
Econ 437 (3cr) Energy Economics & Policy (W)
URP 553 Sustainable Urbanism and Architecture (F)
B2) Sustainable Systems Themes:

- Energy Systems
- Mobility Systems
- Water Systems
- Food Systems
- Built Environment
- Climate Change

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
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
576 – Sustainability Finance
578 – Urban Stormwater
597 – Environmental Systems Analysis
677 – Climate Adaptation Seminar
687 – Landscape Planning

Winter

501 – Science and Management of the Great Lakes
501 – Climate Economics & Policy
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
641 – Interdisciplinary Research Methods
787 – Metro Studio (MLA only)