<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><strong>SS Core</strong></td>
<td></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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<tr>
<td>3CR from the <em>Social Systems Distribution list.</em></td>
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<td>*IAMS Requirement</td>
<td>Two courses; 3CR minimum 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><strong>Electives</strong></td>
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<tr>
<td>Graduate level course at 400-level or above. See attached list of recommended courses.</td>
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<td><strong>Capstone or Non-Capstone</strong></td>
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<td>Option 1:</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>Master’s Project, Thesis, or Practicum</td>
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<td>Option 2:</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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<tr>
<td>Additional coursework</td>
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<td><strong>TOTALS</strong></td>
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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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*IAMS and Social Systems Distribution courses can double-count with Core requirements but we do not double-count the actual credits. 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)
- EAS 501.023 (3cr)
  - Tools for Policy and Environmental Analysis (F)
- EAS 501.091 (3cr)
  - Climate Change Science and Solutions (F)

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

- EAS 570 (3cr)
  - Environ Economics: Quantitative Methods & Tools (F)
  - 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 (TBD)
- EAS 501.091 (1.5CR)
  - Transport, Energy, & Environment (W)
- EAS 501.077 (3CR)
  - The Hydrologic Cycle and Water Resource Management (W)
- EAS 615 (3CR)
  - Renewable Electricity and the Grid (W)
- EAS 501.009 (1.5CR)
  - Principles of Infrastructure Sustainability (F)
- EAS 574/PUBPOL 519 (3cr)
  - Advanced Infrastructure Systems (F)
- EAS 605/BA 605 (3cr)
  - Sustainable Energy Systems (F)
- EAS 677.023 (2)
  - Green Development (W)
- EAS 687 (4cr)
  - Deep Decarbonization (W)
- ARCH 575 (3cr)
  - Landscape Planning (F)
- CEE 480 (3cr)
  - Building Ecology (F)
- CEE 582 (3cr)
  - Design of Environ Engineering Systems (F)
- MECHENG 589 (3cr)
  - Environmental Microbiology (F)
- Michigan Venture Club (W)
- Renewable Energy at the State and Local Level (F)
- Energy Justice (F)
- Ethics Corporate Management (TBD)
- Strategies for Sustainable Development I (F)
- Strategies for Sustainable Development II (F)
- Energy Markets and Energy Politics (F)
- Negotiation Skills (F)
- Sustainable Operations and Supply Chain Management (W)
- Non-Market Strategy (F)
- Behavior and Environment (F)
- Sustainability Finance: Investment Model for Green Growth (F)
- CleanTech Entrepreneurship (W)
- Finance and Sustainable Enterprises (F)
- Energy Project Finance (W)

3) Sustainable Enterprise (3CR)

- EAS 501.035
  - Michigan Venture Club (W)
- EAS 501.102 (3cr)
  - Renewable Energy at the State and Local Level (F)
- EAS 525 (3cr)
  - Energy Justice (F)
- EAS 535/BL 536 (2.25cr)
  - Ethics Corporate Management (TBD)
- EAS 512/Strategy 564 (1.5cr)
  - Strategies for Sustainable Development I (F)
- EAS 513/Strategy 565 (1.5cr)
  - 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 (1.5)
  - 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-Capstone 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)
- ESING 501 (3cr)
  - Seminars in Energy Science, Technology, and Policy (F)
- Econ 437 (3cr)
  - Energy Economics & Policy (W)
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: