### Summary of Requirements for a Master of Science (MS) Degree Effective Fall 2020
**Last Revised 06/23/2020**

#### Environmental Justice Requirements

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>EJ Core</td>
<td>6 credit hours of Environmental Justice specialty courses</td>
<td>EAS 525 Energy Justice (F, Annual, 3CR)</td>
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<td></td>
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<td>EAS 542 Conservation &amp; Dev (F, Annual, 3CR)</td>
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<td></td>
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<td>EAS 566 Public Opinion &amp; Env (TBD, 3CR)</td>
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<td>EAS 593 Environ Justice (W, Annual, 3CR)</td>
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<td>EAS 501.089 Frontiers in EJ (W, Annual,3CR)</td>
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<td>EAS 577 Political Ecology (F, Annual,3CR)</td>
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<td>EAS 677.022 Econ and EJ (F, TBD, 1CR)</td>
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<td></td>
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<td>EAS 501.001 EJ &amp; Flint Water Crisis (F20,1.5CR)</td>
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<table>
<thead>
<tr>
<th>Distribution</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>International</td>
<td>One course focused on International context of EJ</td>
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<table>
<thead>
<tr>
<th>SEAS Core</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
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<tbody>
<tr>
<td>EAS 509 (Natural Systems Core)</td>
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<tr>
<td>EAS 510 (Social Systems Core) or a course from the Social Systems distribution list</td>
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<tr>
<td>IAMS Requirement *</td>
<td>Two courses; 3CR minimum</td>
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<tr>
<td>Please see page 3 for approved courses.</td>
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<table>
<thead>
<tr>
<th>Electives</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
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</thead>
<tbody>
<tr>
<td>Electives</td>
<td>Must be a graduate level course at 400-level and above.</td>
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<table>
<thead>
<tr>
<th>Analytics</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
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<tbody>
<tr>
<td>Analytics</td>
<td>6 credits of analytics. One course must be EAS 538 or equivalent; the other must be from SEAS analytics list</td>
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<thead>
<tr>
<th>Capstone or Non-capstone</th>
<th>Notes</th>
<th>Course</th>
<th>Credits</th>
<th>Term</th>
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</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>Option 1: Option 1: 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>Non-capstone</td>
<td>Option 2: Additional coursework. See advisor for non-opus guidance</td>
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### TOTALS

**TOTAL “EAS” CREDIT HOURS**
Minimum 25 of 42 credit hours

**TOTAL CREDIT HOURS**
Minimum 42 credit hours

*IAMS courses can double-count between Core courses 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.

Course List

International:

SEAS
EAS 555.001 Climate and Development (F) (Lemos)
EAS 563.001 International Environmental Policy (Agrawal) (W)
EAS 565.001 Principles for Transition (Princen) (F)
EAS 664.001 Food & Fuel: Research Questions at the Base of the Economy (Princen) (F)
EAS 573.001 Environmental Footprinting and Input-Output Analysis (Xu) (W)
EAS 577.001 Political Ecology I: Environmental Violence (Butt) (F)*
EAS 677.041 Climate Change Adaptation (Bierbaum) (F)
EAS 542.001 Conservation and Development (Butt) (F)*
EAS 501.162 Sustainability for Development (Jagger) (W)
EAS 501.089 Frontiers in Environmental Justice (Hardin) (W)*

*This course can count towards the EJ core or the International EJ requirement but not both.

Public Health
EPID 666 Health and Socioeconomic Development
HBEHED 516 Global Health: Anthropological Perspectives

Public Policy
PubPol 759 Genetics and Biotechnology Policy

Urban Planning
URP 570 Global and Comparative Planning

Analytics:

Two analytic courses (6 credits). One must be statistics; the other course must be from the SEAS Analytics list.

Electives:

Three or more credit hours, they must be from any U-M graduate courses offered at 400 level or above.

Recommended Electives:

SEAS
EAS 512 Strategies for Sustainable Development I
EAS 513 Strategies for Sustainable Development II
EAS 572/EHS 572 Environmental Impact Assessment
EAS 531 Principles of GIS
EAS 533 Negotiation Skills in Environmental Dispute Resolution
EAS 540 GIS and Natural Resource Applications
EAS 560/URP 544 Behavior and Environment
EAS 562 Environ Policy & Politics
EAS 687 Landscape Analysis and Planning
EAS 570 Env Econ: Quantitative Methods & Tools

Law
Law 805 Environmental Justice
Law 791 Environmental Crimes

Political Science
POLSCI 730/PUBPOL 730 Women and Employment Policy
Public Health
HBEHED 623/SW 602 Racial/Ethnic Health Disparities
HBEHED 640 Community Organization for Health Education
HBEHED 690 Environmental Health Promotion
EHS 508 Principles of Risk Assessment.
EHS 574 Environmental Chemistry
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EHS 688 Topics in Environmental Health Sciences
EPID 705 Epidemiology in Public Health Policy
PubPol 736 Poverty and Inequality

Urban and Regional Planning
URP 521 Geographic Information Systems
URP 586/SW 654 Concepts and Techniques of Community Participation.
URP 583 Social Justice and the City

Research Methodology Courses
Soc 522 Qualitative Research Methods
Stat 403 Introduction to Quantitative Research Methods
PolSci 680 Problems in Behavioral Research Methods
HBEHED 733 Community-Based Participatory Research

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 – Multivariate Stats for Environmental Science (in 2020)
523 – Ecological Risk Assessment
530 – Decision-Making for Sustainability
531 – Principles of GIS
533 – Negotiation Skills
535 – Mediation Skills
552 – Ecosystem Services
553 – Diverse Farming Systems
564 – Localization Seminar
567 – Social Vulnerability & Adaptation to Environ Change
570 – Environmental Economics
572 – Environmental Impact Assessment
576 – Sustainability Finance
578 – Urban Stormwater (every other year)
597 – Environmental Systems Analysis
677 – Climate Adaptation Seminar
687 – Landscape Planning

Winter
501 – Science and Management of the Great Lakes
501 – The Hydrologic Cycle and Water Res Mgmt
531 – Principles of GIS
532 – Natural Resource Conflict Management
541 – Remote Sensing
545 – Applied Ecosystem Modeling
549 – Analysis and Modeling of Ecological Data
550 – Systems Thinking for Sustainable Development
557 – Industrial Ecology
569 – Stakeholder Network Analysis
575 – Climate Economics and Policy
581 – Advanced Education for Environment and Sustainability
610 – Advanced LCA Methods and Software Tools
641 – Social Research Methods in Environment and Sustainability
787 – Metro Studio (MLA only)
Procedure for Obtaining Course Waiver to Substitute for Environmental Justice Requirements

No substitutions will be allowed for environmental justice (EJ) core courses. Any student wishing to substitute a non-core course that is not on the list of courses already approved by the EJ faculty and SEAS (see pages 2-5) must follow these steps to seek approval:

1. Identify the course for which a waiver is sought.

2. Identify a graduate-level course to be substituted.

3. Contact your advisor to discuss the substitution and make a request for a waiver.

4. Provide your advisor and the EJ Field of Studies (FoS) coordinator with:
   a. A description of the course to be substituted
   b. A syllabus of the course to be substituted.

5. The advisor will bring the matter to the attention of the EJ faculty at their FoS meeting (the EJ faculty meets roughly once per month).

6. The EJ FoS faculty will vote on the substitution.

7. The advisor will inform the student of the outcome of the vote after the EJ FoS meeting.

8. If the waiver is approved, the student should complete the required OAP form, obtain the advisor’s signature then submit the form to OAP.

The Environmental Justice Advising Process

Each EJ student is expected to meet with their advisor at least once each semester to discuss their course of study and other curricular matters. At each appointment the student should bring:

1. A completed course of study plan (see page 1),

2. A list of courses selected for upcoming terms.

3. Waiver request information if one is being sought.

Each semester the EJ faculty will host a group advising session with EJ students before registration begins. In addition, each EJ student is expected to schedule individual advising sessions with their advisor. The most efficient ways of scheduling individual appointments is through (a) email, or (b) visit your advisor during regularly-scheduled office hours.