UNIVERSITY OF MARY WASHINGTON – PROGRAM CHANGE PROPOSAL
Electronically submit this completed form with attachments in one file to the Chair of the College Curriculum Committee.

<table>
<thead>
<tr>
<th>COLLEGE (check one):</th>
<th>Arts and Sciences</th>
<th>X Business</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal Submitted By: Chuck Whipkey</td>
<td>Date Prepared: 11/10/2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department /Program:</td>
<td>Earth and Environmental Sciences</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: for any program change entailing the addition any new courses, or revisions to existing courses, separate proposal for those course actions must also be submitted.

PROPOSAL TO CHANGE EXISTING PROGRAM (check no than one of the following)

| | Revise requirements for existing major | X |
| | Revise requirements for a concentration within an existing major |
| | Revise requirements for an existing degree program |
| | Revise requirements for existing certificate program |
| | Revise requirements for existing minor |
| Implementation Date: FALL semester, year: |

REQUIRED ATTACHMENTS FOR CHANGES TO EXISTING PROGRAMS:
1. Rationale statement (Why is this program change needed? What purposes will it serve?)
2. Impact Statement (Provide details about the Library, space, budget, technology, and impacts created by this program change. Supporting statements from the Library, IT Department, etc. evaluating the resource impact and feasibility of the program change are required.)
3. Catalog Copy (Provide the existing Catalog Description and the complete statement of the proposed new Catalog description that reflects the program changes)

PROPOSAL TO CREATE NEW PROGRAM NOT REQUIRING STATE ACTION
(check no more that one of the following)

| | New concentration within existing major | Name: |
| | New minor | Name: |
| | New Major but NOT a new degree* | Name: |

*Use ONLY for interdisciplinary majors that will be grouped as part of the “Special Majors/General Liberal Arts and Sciences” degree (CIP Code 24.0101) or reported as a BLS degree (CIP Code 24.0199)

Implementation Date (semester and year): |

REQUIRED ATTACHMENTS FOR NEW PROGRAMS NOT REQUIRING STATE APPROVAL:
1. Rationale statement (Why is this additional program needed? What purposes will it serve?)
2. Impact Statement (Provide details about the Library, space, budget, technology, and impacts created by this program change. Supporting statements from the Library, IT Department, etc. evaluating the resource impact and feasibility of adding the new program are required.)
3. Catalog Copy (Provide the complete Catalog Description for the proposed new program)
4. Any change that impacts another Department must have a written statement (such as a copy of an email) from the Chair(s) agreeing to the change.

Department Chair Approval: Chuck Whipkey Date: 11/11/2015

CCC Chair Approval: Date: 11/18/15

Dean Approval: Richard Finkelstein Date: 11/19/15

UCC Chair Approval: Date:

*Provost Approval: Date:

*Required only in cases of proposals for new concentrations, new minors, or new majors that do not involve a new degree
1. Rationale Statement for the proposal to allow EESC 120 *Introduction to Environmental Science II* to count as fulfilling a major requirement in our Environmental Science Natural Science and Social Science tracks as an alternative to GEOL 112A.

This proposal is submitted in conjunction with our proposal to create the new course, EESC 120 *Introduction to Environmental Science II*. We plan to institute EESC 120 in a phased manner, with one section of the course in Spring 2017 and the full complement of five sections in Spring 2018.

As stated in the new course proposal, we are proposing EESC 120 to be the second part of a two-course sequence in Environmental Science that will fulfill the General Education Natural Science requirement. This two-course sequence will consist of the existing course, EESC 110 *Introduction to Environmental Science* (3 credits) as the prerequisite course, followed by the proposed EESC 120 *Introduction to Environmental Science II* (4 credits).

A second goal is for EESC 120 to be a major requirement for our Environmental Science Natural Science Track and Environmental Science Social Science Track majors. Currently our existing course GEOL 112A *Evolution of the Earth* is required for majors in both tracks. Our ultimate goal is for EESC 120 to replace GEOL 112A as a requirement for both tracks. However, during the transitional 2016 – 2017 year, because we will offer just one EESC 120 section, we propose that EESC 120 be allowed to count as an alternate for GEOL 112A.

**Why this proposed change?**

As explained in the New Course Proposal for EESC 120, this new course, in conjunction with EESC 110, will allow us to explore environmental issues in much greater depth and breadth, and will allow hands-on experiences for our students, both majors and non-majors. In particular, EESC 120 will allow new (or potential) environmental science majors to experience first-hand the application of the scientific method to environmental issues.

Much of the material currently covered in GEOL 112A, including climate change and the hydrologic cycle, is appropriate for environmental science students and will be retained in EESC 120, albeit with a somewhat different focus. Other material, not covered in GEOL 112A (e.g. human population impacts, air pollution, and solid waste disposal/recycling) is very appropriate for Environmental Science
students and will be covered in the new course. For this transitional year, both courses will give an adequate foundation for our majors.

2. Impact Statement
This new course will have no library, space, budget, or technology impacts beyond those that can be handled internally by our department.

We anticipate that just one section of the new class, taught by Melanie Szulczewski, will be offered in Spring 2017, as we pilot the new laboratory experiences. For that reason, we plan to continue to offer sufficient sections of Geology 112A to accommodate the needs of the Fall 2016 EESC 110 class.

3. Catalog copy
The only change to the catalog for 2016 – 2017 will be the addition of EESC 120 as an alternative to GEOL 112A:

Existing catalog copy:

Requirements for the Environmental Science Major — Natural Science Concentration (ESNT)
Forty (40) or forty one (41) credits, including:
EESC 110, 315, and 460; EESC 205 or GEOG 250 or GISC 200; BIOL 311 or 322 or EESC 323;
CHEM 211 or 253 or 254 or 331 (331 must be taken with 332) or EESC 325; GEOL 111 and 112A;
and 12 credits from courses in the Natural Sciences Elective Track list.

Requirements for the Environmental Science Major — Social Science Concentration (ESSO)
Thirty-eight (38) or thirty-nine (39) credits, including EESC 110 and 460; EESC 205 or GEOG 250 or GISC 200; BIOL 210; CHEM 211 or 253 or 254 or 331 and 332 (331 must be taken with 332) or EESC 325; ECON 331; GEOL 111 and 112A; and 12 credits from courses in the Social Sciences Elective Track list.

Revised catalog copy (change in bold)

Requirements for the Environmental Science Major — Natural Science Concentration (ESNT)
Forty (40) or forty one (41) credits, including:
EESC 110, 315, and 460; EESC 205 or GEOG 250 or GISC 200; BIOL 311 or 322 or EESC 323;
CHEM 211 or 253 or 254 or 331 (331 must be taken with 332) or EESC 325; GEOL 111 and 112A
(EESC 120 may substitute for GEOL 112A); and 12 credits from courses in the Natural Sciences Elective Track list.

Requirements for the Environmental Science Major — Social Science Concentration (ESSO)
Thirty-eight (38) or thirty-nine (39) credits, including EESC 110 and 460; EESC 205 or GEOG 250 or GISC 200; BIOL 210; CHEM 211 or 253 or 254 or 331 and 332 (331 must be taken with 332) or EESC 325; ECON 331; GEOL 111 and 112A (EESC 120 may substitute for GEOL 112A); and 12 credits from courses in the Social Sciences Elective Track list.