**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>Business</th>
<th>Education</th>
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<tbody>
<tr>
<td>Proposal Submitted By:</td>
<td>Stephen Davies</td>
<td>Date Prepared: Nov 10, 2015</td>
<td></td>
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<tr>
<td>Department /Program:</td>
<td>Data Science</td>
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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)

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<tr>
<td>Revise requirements for existing major</td>
<td>Revise requirements for a concentration within an existing major</td>
<td>Revise requirements for an existing degree program</td>
<td>Revise requirements for existing certificate program</td>
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<tr>
<td>Revise requirements for existing minor</td>
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Implementation Date: FALL semester, year: 2016

**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)

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<td>New concentration within existing major</td>
<td>Name:</td>
<td>New minor</td>
<td>Name:</td>
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<tr>
<td>New Major but NOT a new degree*</td>
<td>Name:</td>
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*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: Stephen Davies Date: 11/10/2015

CCC Chair Approval: Date: 11/18/15

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

UCC Chair Approval: Patricia Reynolds Date: 12/7/2015

*Provost Approval: Date: ____________

*Required only in cases of proposals for new concentrations, new minors, or new majors that do not involve a new degree
Proposed Data Science minor change

Rationale

Data Science is a burgeoning, multidisciplinary field with innumerable application areas. Students completing the UMW Data Science minor are required to complete five courses, two of which are foundational, skill-building courses (MATH 200 and CPSC/DSCI 219), and the other three of which are application-oriented in specific disciplines (DSCI 401, 402, CPSC 419, 420, MATH 300, or another course in BUAD, DSCI, CPSC, or MATH that the Data Science committee deems sufficiently applicable to data analytics).

In discussions with Bob Rycroft in the Economics department, it has become apparent to our committee that some of the upper-level Economics courses not surprisingly fit very well with what we expect from the three application-oriented courses. To cite two examples, ECON 361 (Introduction to Econometrics) and ECON 462 (Economic forecasting) are excellent, robust, analytical courses that are in the wheelhouse of a major application area for Data Science. These courses require the use of STATA, a Data Analysis and Statistical Software package to analyze complex economic models.

Other ECON courses, too, may be appropriate; for instance, certain independent study projects (ECON 491). For this reason, the Data Science committee at the present time would like to reserve the flexibility of approving these courses on a case-by-case basis.

Hence, we propose to add ECON courses to the 300-level program-director-approvable list.

Impact

We do not anticipate any significant addition of university resources being required for this change. Students will continue to take upper-level ECON courses as they become available, and we do not foresee large numbers of Data Science minors flooding upper-level ECON courses in pursuit of those requirement options.
Catalog Copy

Old requirements:

Fifteen (15) credits to include MATH 200; CPSC/DSCI 219, and any three (3) of the following: DSCI 401, 402, CPSC 419, 420, MATH 300, or any BUAD, DSCI, CPSC, or MATH course numbered 300 or higher, approved by the program director.

Proposed new requirements (change in bold):

Fifteen (15) credits to include MATH 200; CPSC/DSCI 219, and any three (3) of the following: DSCI 401, 402, CPSC 419, 420, MATH 300, or any BUAD, DSCI, CPSC, ECON, or MATH course numbered 300 or higher, approved by the program director.