May 12, 2010

MEMORANDUM

TO: Cheng-i Wei
   Dean, College of Agriculture and Natural Resources

FROM: Elizabeth Beise
      Interim Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to modify the curriculum of the MS in Environmental Science and Technology Wetland Science concentration (PCC log no. 09071)

At its meeting on April 16, 2010, the Senate Committee on Programs, Curricula and Courses approved your proposal to modify the curriculum of the MS in Environmental Science and Technology, Wetland Science concentration. A copy of the approved proposal is attached.

The changes are effective Fall 2010. The College should ensure that the changes are fully described in the Graduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

MDC/

Enclosure

cc: Alex Chen, Chair, Senate PCC Committee
    Sarah Bauder, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Howard, Data Administration
    Donna Williams, Institutional Research & Planning
    Anne Turkos, Archives
    Linda Yokoi, Office of the Registrar
    Thomas Castonguay, Graduate School
    Leon Slaughter, College of Agriculture and Natural Resources
    Frank Coale, Environmental Science and Technology
College/School: AGNR / 012025001  
Department/Program: ENST / 250901

Type of Action (choose one):

- [X] Curriculum change (including informal specializations)  
- [ ] New academic degree/award program  
- [ ] Renaming of program or formal Area of Concentration  
- [ ] New Professional Studies award iteration  
- [ ] Addition/deletion of formal Area of Concentration  
- [ ] New Minor  
- [ ] Suspend/delete program  
- [ ] Other

Summary of Proposed Action:
We would like to change the number of credits required in the Wetland Science concentration of the Environmental Science and Technology (ENST) MS graduate program from 18 credits to 12 credits. This change would bring this specialization in line with the other two specializations in parallel tracks. The original intent was to make them all 12 credits but the Wetland Science concentration was submitted as 18 credits by mistake.

APPROVAL SIGNATURES - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair  
   Andrew H. Baldwin  
   3/16/10

2. Department Chair  
   Frank J. Cale  
   3/16/10

3. College/School PCC Chair  
   2/17/10

4. Dean  
   3/17/10

5. Dean of the Graduate School (if required)  
   3/29/10

6. Chair, Senate PCC  
   4/16/2010

7. University Senate Chair (if required)  

8. Vice President for Academic Affairs & Provost  
   5/12/2010
Table 1. ENST MS Program – Summary Requirements and credits

<table>
<thead>
<tr>
<th>Courses</th>
<th>Soil &amp; Watershed Sciences</th>
<th>Ecological Technology Design</th>
<th>Wetland Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENST Core Requirements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENST602 – Res. Methods</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENST702 – Prof. Dev.</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>ENST798 – Grad. Seminar</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Statistics</td>
<td>3-4</td>
<td>3-4</td>
<td>3-4</td>
</tr>
<tr>
<td>Specialization Requirements</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Elective</td>
<td>1-2*</td>
<td>1-2*</td>
<td>0</td>
</tr>
<tr>
<td>Research ENST799</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30</td>
<td>30</td>
<td>34-35</td>
</tr>
</tbody>
</table>

* Although only one or two credits are needed to meet the graduate school requirement of 30 credits, usually a course of 3 or 4 credits will be taken.
## ENST M.S. Graduate Program - Summary of Requirements

<table>
<thead>
<tr>
<th>Area of Specialization</th>
<th>Soil and Watershed Sciences</th>
<th>Ecological Technology Design</th>
<th>Wetland Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S. Dept Admission</td>
<td>B.S. in related field; Undergraduate cumulative GPA of 3.0; GRE; Basic Science Requirement (a minimum of one semester of Calculus and 16 credits in Chemistry, Physics or Mathematics [beyond Calculus I]).</td>
<td></td>
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</tr>
<tr>
<td>Grad School Requirements</td>
<td>30 semester hours beyond the B.S. degree, including six hours of thesis research credit (799). Of the 24 hours required in graduate courses, at least 12 must be earned in a major area. A minimum of 12 credit hours must be earned at the 600 level or above.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENST Core Requirements</td>
<td>ENST 602 - Research Principles and Methodology in Environmental Science and Technology (3 credits)</td>
<td>ENST 702 - Communication and Professional Development in Environmental Science and Technology (2 credits)</td>
<td>ENST 798 Graduate Seminar (2 semesters – 2 credits)</td>
</tr>
<tr>
<td></td>
<td>One graduate level statistics course (from among, or equivalent to, those on approved list)¹.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialization Requirements</td>
<td>Twelve credits of graduate level soil science courses. The 12 credits must be earned in any four of the following five areas: soil chemistry, soil physics, soil pedology, soil biology, soil fertility. All courses to be approved by the advisory committee.</td>
<td>Six credits of graduate level courses in ecology and six credits of graduate level courses in ecological design or related engineering courses. All courses to be approved by the advisory committee.</td>
<td>Twelve Eighteen (12 - 48) credits from a list of approved graduate level courses² in Ecology, Soil Science and Hydrology, with a minimum of 3 credits from each of these three groups. All courses to be approved by the advisory committee.</td>
</tr>
</tbody>
</table>

1. Approved Statistics Courses:
   - BIOM 601 Biostatistics I (4)
   - BIOM 602 Biostatistics II (4)
   - BIOM 603 Biostatistics III (4)
   - BIOM 621 Applied Multivariate Statistics (3)
   - GEOG606 Quantitative Spatial Analysis (3)

2. Approved Courses for Wetland Science Specialization
   - Ecology
     - ENST 650 Wetland Ecology (3)
     - ENST 460 Wildlife Management (3)
     - BSCI 460 Plant Ecology (3)
     - PLSC 400 Environmental Plant Physiology
     - MEES 645 Ecology and Management of Wetland and Submersed Aquatic Vegetation Systems (3)
   - Soils
     - ENST 430** Wetlands Soils (3)
     - ENST 421 Soil Chemistry (4)
     - ENST 721 Advanced Soil Chemistry (3)
     - ENST 414 Soil Morphology, Genesis, and Classification (4)
   - Hydrology
     - ENST 417 Soil Hydrology and Physics (3)
     - ENCE 431 Hydrologic Engineering (3)
     - ENCE 432 Ground Water Hydrology (3)
     - ENCE 630 Environmental and Water Resource Systems I (3)
     - GEOL 451 Groundwater Geology (3)
     - GEOL 452 Watershed and Wetland Hydrology (3)
     - GEOL 652 Advanced Watershed and Wetland Hydrology (3)

*As part of the continued reorganization of the ENST department, these courses are being reorganized and will also be offered at the 600 level*