WMU Curriculum Guide for Freshwater Science and Sustainability

Program description and notes:

- WMU and Northwestern Michigan College in Traverse City have collaborated to create this new program, which became a WMU offering effective Fall 2014;
- The program provides the broad interdisciplinary training that will enable graduates to help solve problems involving the quality, availability, and use of fresh water;
- The program prepares students for positions in the field such as: watershed managers, freshwater quality analysts, sustainability coordinators, environmental and resource managers, and/or for graduate school;
- The program requires 92 credit hours of coursework. All WMU degrees require a total of at least 122 credit hours for graduation;
- There are two options for students to complete this program:
  - The first is to take as many courses as you can at Alpena and then to transfer to WMU (in Kalamazoo) for the last two years of the program in regular classroom format;
  - The second option is to take a combination of online and hybrid courses. The hybrid courses include some online coursework and face-to-face meetings which are only available in Traverse City at this time;
- No minor is required;
- There will be a significant fieldwork component to several courses in the program;
- Given the interdisciplinary nature of the program, it is very important that students work regularly with program advisors (see contact information below). Please consult with a program advisor and review the schedule of courses closely when selecting your classes.

Courses that may be taken at Alpena:

<table>
<thead>
<tr>
<th>WMU courses</th>
<th>Alpena equivalent courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 2010 or 2020 (2010 preferred)</td>
<td>ECN 231 or 232</td>
</tr>
<tr>
<td>BIOS 1610</td>
<td>BIO 161</td>
</tr>
<tr>
<td>BIOS 1620</td>
<td>No equivalent</td>
</tr>
<tr>
<td>CHEM 1100 and 1110</td>
<td>CEM 121</td>
</tr>
<tr>
<td>MATH 1110</td>
<td>MTH 113</td>
</tr>
<tr>
<td>STAT 3660</td>
<td>MTH 223</td>
</tr>
<tr>
<td>ANTH 1200</td>
<td>No equivalent</td>
</tr>
</tbody>
</table>
Students in this program must earn a grade of “C” or better in all courses counted toward their major. Courses that transfer to WMU must also have a minimum of a “C” grade in order to transfer in.

For further information about this program visit the Environmental and Sustainability Studies program website, linked in the WMU website’s “Academics” (undergraduate) directory pages.

**General Education Requirements:**

- Please find information about general education requirements on this link;
- All students graduating from the College of Arts & Sciences must meet the world language proficiency by completing two semesters (6-8 hours) of the same foreign language or American Sign Language, or passing WMU’s proficiency by exam. Please contact the College of Arts & Sciences Undergraduate Advising Office at (269) 387-4366 with any questions. Neither the MACRAO Agreement nor the MTA satisfy the world language requirement.
  - If the student’s first language is not English, then the student is exempt from this requirement. Determination of eligibility for this exemption is based on whether the student was required to take the TOEFL test for admission, and can be verified through the WMU departments of Spanish or World Language and Literatures.
- The College of Arts & Sciences requires a critical thinking course, to be chosen from Proficiency 4c. See the general education transfer guide cited above. MACRAO or MTA will cover this requirement.

**Contact information:**

Dr. Maarten Vonhof  
Director, Institute of the Environment and Sustainability  
amaarten.vonhof@wmich.edu  
(269) 387-2987  

Or  

College of Arts & Sciences  
[https://wmich.edu/arts-sciences/advising](https://wmich.edu/arts-sciences/advising)  
(269) 387-4366