Western Michigan University Biology Curriculum Guide

Pre biology requirements:

- The following courses are the prerequisites for biology, biomedical sciences, and biology-secondary education (high school level) majors;
- This major is also a good choice for students going into graduate programs and professional schools such as physician assistant, physical therapy, and medical, dental, and veterinary schools;
- A minimum of 15 credits of biology must be earned at WMU for the major;
- Only departmental courses in which a grade of “C” or better is obtained may be counted toward a major or minor in Biological Sciences.

<table>
<thead>
<tr>
<th>WMU courses</th>
<th>NCMC courses</th>
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<tbody>
<tr>
<td>CHEM 1100/1110</td>
<td>CEM 121</td>
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<tr>
<td>CHEM 1120/1130</td>
<td>CEM 122</td>
</tr>
<tr>
<td>CHEM 3750/3760</td>
<td>CEM 231</td>
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**Note:** Most biomedical science majors minor in chemistry. Therefore, you are advised not to take the 2nd Organic chemistry class at the community college. The minor requires at least 7 credits at WMU, and if you wait to take it at WMU you will only need 2 classes at WMU for the minor. Biology and Biology-Secondary Education majors are advised not to take organic chemistry 1 or 2 at the community college for the same reason.

<table>
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<th>WMU courses</th>
<th>NCMC courses</th>
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<tr>
<td>PHYS 1130/1140</td>
<td>PHY 210</td>
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<tr>
<td>PHYS 1150/1160</td>
<td>PHY 211</td>
</tr>
<tr>
<td>MATH 1220 or 2000</td>
<td>MATH 150</td>
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<tr>
<td>STAT 3660</td>
<td>STAT 200</td>
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General education requirements:

- Please see the [general education program transfer guide](#);
- Two semesters of a foreign language are required in the College of Arts and Sciences (CAS). The requirement can be met by:
Completing a minimum of 2 years of one high school language, with a B- or higher grade in the 4th semester or at any point after that, if more than 2 years are completed;
• Completing 2 semesters in college;
• Or through passing a language proficiency test. Please contact the WMU World Languages department for languages other than Spanish, and the WMU Spanish department for that language. Neither the MACRAO Agreement nor the Michigan Transfer Agreement satisfy the world language requirement;

The College of Arts and Sciences also requires a critical thinking course, to be chosen from Proficiency 4c (see the general education link in the first bullet, above). MACRAO or the MTA will cover this requirement.

Important notes:

• The chemistry, physics, and mathematics courses are called “cognate” requirements for biology department majors and are definitely required;
• The physics and chemistry courses have a minimum prerequisite of successful completion of high school advanced algebra (MATH 120 at NCMC);
• Chemistry 1100 also requires a high school chemistry course as a prerequisite (same as CEM 101 at NCMC). Students should be aware of these prerequisites while they are beginning at the community college;
• For questions about general education requirements please write the WMU College of Arts and Sciences advisors at the email address given below;
• Prior to enrolling in WMU courses, students should consult the biology department advisor below.

Approved by:
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