## Microbiology Option: Environmental Health Track

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 141 - College Chemistry I (F)</td>
<td>4</td>
</tr>
<tr>
<td>WRIT 101W - College Writing I (or test out of this requirement)</td>
<td>3</td>
</tr>
<tr>
<td>BIOC 160 - Principles of Living Systems (F, S) or BIOC 260 - Cellular and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>M 151Q - Precalculus (F, S, Su) or M 161Q - Survey of Calculus or M 171Q - Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 143 - College Chemistry II (F, S, Su)</td>
<td>4</td>
</tr>
<tr>
<td>GPHY 284 - Intro to GIS Science &amp; Cartog</td>
<td>3</td>
</tr>
<tr>
<td>COMX 111US - Introduction to Public Speaking or US 101US - First Year Seminar</td>
<td>3</td>
</tr>
<tr>
<td>CORE (University Seminar)</td>
<td>3</td>
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<tr>
<td>Core and/or Electives</td>
<td>3</td>
</tr>
<tr>
<td>Year Total:</td>
<td>31</td>
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### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOM 210RN - Principles of Environmental Health Science (F)</td>
<td>3</td>
</tr>
<tr>
<td>CHMY 211 - Elements of Organic Chemistry (F, S) or CHMY 211 - Organic Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>PHSX 205 - College Physics I (F, S, Su)</td>
<td>4</td>
</tr>
<tr>
<td>NRSM 240 - Natural Resource Ecology (F) or NRSM 101 - Natural Resource Conservation or BIOE 370 - General Ecology or BIOM 415 - Microbial Diversity, Ecology, and Evolution or SFBS 146 - Introduction to Sustainable Food and Bioenergy Systems</td>
<td>3</td>
</tr>
<tr>
<td>KIN 221 - Hlth Anatomy &amp; Physiology (F, Su) or BIOH 201 and BIOH 211 or ANSC 265 and ANSC 266 or BIOH 185 - Integrated Physiology I</td>
<td>3</td>
</tr>
<tr>
<td>HDFS 271 - Statistical Measures of Well-Being (S) or BIOJ 318 - Biometry or STAT 216Q - Introduction to Statistics CULA 105 - Food Safety Sanitation (F) or BIOM 250 - Microbiology for Health Sciences: Infectious Diseases or BIOM 460 - Infectious Diseases Ecology and Spillover</td>
<td>3</td>
</tr>
<tr>
<td>CORE and/or Electives</td>
<td>5-6</td>
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<tr>
<td>Year Total:</td>
<td>28-29</td>
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### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOM 360 - General Microbiology (F, S)</td>
<td>5</td>
</tr>
<tr>
<td>MBEH 498 - Internship</td>
<td>3</td>
</tr>
<tr>
<td>EENV 387 - Environmental Laws and Regulations</td>
<td>3</td>
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<tr>
<td>CORE and/or Electives</td>
<td>10</td>
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<tr>
<td>Year Total:</td>
<td>21</td>
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### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOM 494 - Seminar/Workshop (capstone - take twice) or MBEH 490R - Undergraduate Research</td>
<td>2-3</td>
</tr>
<tr>
<td>CUTH 440 - Principles Of Epidemiology (F)</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 407 - Environmental Risk Assessment (F)</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 425 - Toxicology: Science of Poisons</td>
<td>3</td>
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<tr>
<td>CORE and/or Electives</td>
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<td>Year Total:</td>
<td>30-31</td>
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<tr>
<td>Total Program Credits:</td>
<td>120</td>
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</table>

### Required Electives

Students must take a minimum of 12 credits from this list.

### Recommended Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULA 105 - Food Safety Sanitation (whichever courses were not taken above) or BIOM 250 - Microbiology for Health Sciences: Infectious Diseases or BIOM 460 - Infectious Diseases Ecology and Spillover MBEH 2XX (HAZWOPER [Hazardous Waste Operations &amp; Emergency Response])</td>
<td>2-3</td>
</tr>
<tr>
<td>BIOM 430 - Applied and Environmental Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>LS 191 - Special Topics (Introduction to Global Health (F))</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 272CS - Water Resources (F)</td>
<td>3</td>
</tr>
<tr>
<td>ENSC 245IN - Soils (F)</td>
<td>3</td>
</tr>
<tr>
<td>ARCH 231CS - Issues in Sustainability</td>
<td>3</td>
</tr>
<tr>
<td>WRIT 221 - Intermediate Tech Writing or WRIT 326 - Advanced Writing</td>
<td>3</td>
</tr>
<tr>
<td>CUTH 210 - Foundations in Community Health</td>
<td>3</td>
</tr>
</tbody>
</table>

### Electives: Other

A minimum of 120 credits is required for graduation, with at least 42 course credits at 300 level or above.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MBEH 291 - (Special Topics in Environmental Health)</td>
<td>1-4</td>
</tr>
<tr>
<td>MBEH 475 - (Field Project in Environmental Health)</td>
<td>1-4</td>
</tr>
<tr>
<td>MBEH 490R - Undergraduate Research</td>
<td>1-6</td>
</tr>
<tr>
<td>MBEH 492 - Independent Study</td>
<td>1-3</td>
</tr>
<tr>
<td>MBEH 4XX - (Water &amp; Wastewater Microbiology (planned))</td>
<td>3</td>
</tr>
<tr>
<td>MBEH 4XX - (Occupational Health &amp; Safety (planned))</td>
<td>3</td>
</tr>
<tr>
<td>AGSC 465R - Health, Agriculture, Poverty (F, S)</td>
<td>4</td>
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<tr>
<td>BCH 380 - Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIOE 375 - Ecological Responses to Climate Change</td>
<td>3</td>
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<tr>
<td>BIOH 201 - Human Anatomy and Physiology I (F)</td>
<td>5</td>
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<tr>
<td>BIOH 303 - Global Disease and Health Disparities (S)</td>
<td>3</td>
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<tr>
<td>BIOM 400 - Medical Microbiology (S)</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 405 - Host-Associated Microbiomes (S)</td>
<td>3</td>
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<tr>
<td>BIOM 410 - Microbial Genetics (S)</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 435 - Virology (F)</td>
<td>3</td>
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<tr>
<td>BIOM 450 - Microbial Physiology (F)</td>
<td>3</td>
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<tr>
<td>BIOM 452 - Soil &amp; Envirnmnt Microbiology (F)</td>
<td>3</td>
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<tr>
<td>BIOB 410 - Immunology (F, S)</td>
<td>3</td>
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<tr>
<td>BISO 262IN - Introduction to Entomology</td>
<td>3</td>
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<tr>
<td>BMGT 235 - Management (F)</td>
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<tr>
<td>CHMY 323 - Organic Chemistry II</td>
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<tr>
<td>CUTH 317 - Health Behavior Theories</td>
<td>3</td>
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<tr>
<td>ENSC 353 - Environmental Biogeochemistry</td>
<td>3</td>
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<tr>
<td>ENSC 444 - Watershed Hydrology (F)</td>
<td>3</td>
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<tr>
<td>ENSC 460 - Soil Remediation (S)</td>
<td>3</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>-------------</td>
<td>----------------------------------------------------------</td>
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<tr>
<td>ENSC 461</td>
<td>Restoration Ecology</td>
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<tr>
<td>ERTH 101IN</td>
<td>Earth System Sciences</td>
</tr>
<tr>
<td>GPHY 357</td>
<td>GPS Fund/App in Mapping (F)</td>
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<tr>
<td>GPHY 384</td>
<td>Adv GIS and Spatial Analysis (F, S)</td>
</tr>
<tr>
<td>GPHY 402</td>
<td>Water and Society</td>
</tr>
<tr>
<td>M 161Q</td>
<td>Survey of Calculus (Calculus can count as elective if M151 taken at MSU)</td>
</tr>
<tr>
<td>or M 171Q</td>
<td>Calculus I</td>
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<tr>
<td>NASX 310</td>
<td>Native Cultures of North America</td>
</tr>
<tr>
<td>or NASX 450</td>
<td>History of American Indians</td>
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<tr>
<td>NASX 415</td>
<td>Native Food Systems</td>
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<tr>
<td>NASX 476</td>
<td>American Indian Policy and Law</td>
</tr>
<tr>
<td>NRSM 430</td>
<td>Natural Resource Law</td>
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<tr>
<td>NUTR 221CS</td>
<td>Basic Human Nutrition (F, S, Su)</td>
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<tr>
<td>NUTR 226</td>
<td>Food Fundamentals (S)</td>
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<tr>
<td>NUTR 227</td>
<td>Food Fundamentals Lab (F, S)</td>
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<tr>
<td>NUTR 322</td>
<td>Food Service System Management (F)</td>
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<tr>
<td>PHSX 207</td>
<td>College Physics II</td>
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<tr>
<td>SFBS 346</td>
<td>Sustainable Food and Bioenergy Systems</td>
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<td></td>
<td>Summer Field Course</td>
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<tr>
<td>SFBS 451R</td>
<td>Sustainable Food Systems</td>
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<tr>
<td>STAT 217Q</td>
<td>Intermediate Statistical Concepts</td>
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<tr>
<td>STAT 411</td>
<td>Methods for Data Analysis I</td>
</tr>
<tr>
<td>STAT 412</td>
<td>Methods for Data Analysis II</td>
</tr>
</tbody>
</table>
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.