## B. S. MICROBIOLOGY 2013-2014

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1100 Prin. of Biol. I&lt;sup&gt;1&lt;/sup&gt; ... 5(4,3)</td>
<td>BIOL 1110 Prin. of Biol. II&lt;sup&gt;1&lt;/sup&gt; ... 5(4,3)</td>
</tr>
<tr>
<td>CH 1010 General Chemistry ... 4(3,3)</td>
<td>CH 1020 General Chemistry ... 4(3,3)</td>
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<tr>
<td>COMM 1500 Intro. to Human Comm. or ... 3(2,2)</td>
<td>ENGL 1030 Accelerated Composition ... 3(3,1)</td>
</tr>
<tr>
<td>COMM 2500 Public Speaking ... 3(3,1)</td>
<td>Mathematical Sciences Requirement&lt;sup&gt;2&lt;/sup&gt; ... 3-4</td>
</tr>
<tr>
<td>MICR 1010 Microbes and Human Affairs ... 1(1,0)</td>
<td>15-16</td>
</tr>
<tr>
<td>MTHS 1060 Calculus of One Var. I ... 4(4,0)</td>
<td></td>
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<td></td>
<td>17</td>
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### SOPHOMORE YEAR

| CH 2230 Organic Chemistry ... 3(3,0) | BIOL 4340 Bio. Chem. Lab Techniques ... 2(1,3) |
| CH 2270 Organic Chemistry Lab ... 1(0,3) | CH 2240 Organic Chemistry ... 3(3,0) |
| ENGL 3150 Scientific Writing and Comm... 3(3,0) | CH 2280 Organic Chemistry Lab ... 1(0,3) |
| Arts and Humanities (Literature) Req.<sup>3</sup> ... 3 | Arts and Humanities (Non-Lit) Req.<sup>3</sup> ... 3 |
| Social Science Requirement<sup>4</sup> ... 3 | Biochemistry Requirement<sup>5</sup> ... 3 |
| Elective<sup>4</sup> ... 3 | General Microbiology Requirement<sup>6</sup> ... 4 |
| | 16 |

### JUNIOR YEAR

| MICR 4010 Microbial Diversity and Ecol... 3(3,0) | MICR 4120 Bacterial Physiology ... 3(3,0) |
| PHYS 2070 General Physics I <and> ... 3(3,0) | MICR 4500 Advanced Micro Lab I ... 2(1,2) |
| PHYS 2090 General Physics I Lab or ... 1(0,2) | Microbiology Requirement<sup>7</sup> ... 3 |
| PHYS 1220 Physics with Calculus I <and> ... 3(3,0) | Social Science Requirement<sup>3</sup> ... 3 |
| PHYS 1240 Physics Lab I ... 1(0,3) | Elective<sup>4, 8</sup> ... 3 |
| Microbiology Requirement<sup>7</sup> ... 6 | 14 |
| Elective<sup>4</sup> ... 3 |  |
| | 16 |

### SENIOR YEAR

| BIOL 4610 Cell Biology ... 3(3,0) | MICR 4520 Advanced Micro Lab III ... 2(1,2) |
| MICR 4150 Microbial Genetics ... 3(3,0) | MICR 4930 Senior Seminar ... 2(2,0) |
| MICR 4510 Advanced Micro Lab II ... 2(1,2) | Microbiology Requirement<sup>7</sup> ... 3 |
| Virology Requirement<sup>8</sup> ... 3 | Elective<sup>4, 8</sup> ... 9 |
| Elective<sup>4</sup> ... 3 | 16 |

**Total Semester Hours = 124 -125**

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<sup>1</sup> BIOL 1100 and BIOL 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100 and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 3000 level or above. See advisor.

<sup>2</sup> MTHS 1110, 2030, 3010, or EXST 3010 or other approved coursework. See advisor. Medical and dental schools have different mathematics requirements.

<sup>3</sup> See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>4</sup> Elective hours may be used toward satisfying the requirements of a minor.

<sup>5</sup> BCHM 3010 or 3050, or other approved coursework at the 2000 level or higher.

<sup>6</sup> MICR 3050 or other approved coursework at the 2000 level or higher.

<sup>7</sup> See advisor. Minimum of 12 credits is required. At least one course must be selected from each of the following fields:

- **Biomedicine** — BIOL 3150, 4200, 4340, 4560/4570, 4670, 4840, 4890, GEN 3000, HLTH 3800, MICR 4000, 4110, (AVS, BIOL) 4140, 4170
- **Environmental** — BIOL (PLP) 4250, MICR 4020, 4030, 4100
- **Food Safety, Industrial, and Technology** — BIOL 4870, MICR 4070, 4130

<sup>8</sup> Students planning on applying to medical/dental schools should take PHYS 2080 and 2100 during the second semester junior year.

<sup>9</sup> BIOL 4540 or MICR 4160
B. S. MICROBIOLOGY 2013-2014
BIOMEDICINE CONCENTRATION

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COMM 2500 Public Speaking  
MICR 1010 Microbes and Human Affairs  
MTHS 1060 Calculus of One Var. I | BIOL 1110 Prin. of Biol. II  
CH 1020 General Chemistry  
ENGL 1030 Accelerated Composition  
Mathematical Sciences Requirement |

**SOPHOMORE YEAR**

| BIOL 4610 Cell Biology  
BIOL 4620 Cell Biology Lab  
MICR 4010 Microbial Diversity and Ecol...  
PHYS 2070 General Physics I and  
PHYS 2090 General Physics I Lab or  
PHYS 1220 Physics with Calculus I and  
PHYS 1240 Physics Lab I  
Genetics Requirement  
Elective  | CH 2240 Organic Chemistry  
CH 2280 Organic Chemistry Lab  
ENGL 3150 Scientific Writing and Comm...  
Arts and Humanities (Literature) Req.  
Social Science Requirement  
Elective  |

**JUNIOR YEAR**

| MICR 4120 Bacterial Physiology  
MICR 4500 Advanced Micro Lab I  
PHYS 2080 General Physics II and  
PHYS 2100 General Physics II Lab or  
PHYS 2210 Physics with Calculus II and  
PHYS 2230 Physics Lab II  
Social Science Requirement  
Elective  | MICR 4140 Basic Immunology  
MICR 4150 Microbial Genetics  
MICR 4160 Introductory Virology  
MICR 4510 Advanced Micro Lab II  
Biomedicine Requirement  |

**SENIOR YEAR**

| MICR 4110 Pathogenic Bacteriology  
MICR 4170 Mol. Mech. Carcin & Aging  
MICR 4520 Advanced Micro Lab III  
MICR 4930 Senior Seminar  
Biomedicine Requirement  
Elective  | MICR 3050 or other approved coursework at the 2000 level or higher.  
GEN 3000 or 3020, or other approved coursework. |

1 BIOL 1100 and BIOL 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100 and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 3000 level or above. See advisor.

2 MTHS 1110, 2030, 3010, or EXST 3010 or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements.

3 See General Education Requirements. Six of these credits must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

4 Elective hours may be used toward satisfying the requirements of a minor.

5 BCHM 3010, 3050 or other approved coursework at the 2000 level or higher.

6 See advisor. Minimum 9 hours required. BCHM 4230, 4320, BIOL 3150, 4200, (PLPA) 4250, 4340, 4560, 4570, 4670, 4840, 4890, HLTH 3800, MICR 4000 or 4910.

7 MICR 3050 or other approved coursework at the 2000 level or higher.

8 GEN 3000 or 3020, or other approved coursework.

**Total Semester Hours = 125 -126**