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**Microbiology Major**

**69 credit min**

**Effective for Spring 2013**

**Microbiology Core Courses (11-12 Credits)**

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| --- | --- | --- | --- |
| BIO 105 | Biological Concepts(NS)(XL) | B | (4) \_\_\_\_ |
|  **OR** |  |  |  |
| BIO 108 | Honors: Concepts in Bio(NS)(XL) | F | (5) \_\_\_\_ |
| BIO 106 | Biological Concepts Diversity(NS)(XL) | B | (4) \_\_\_\_ |
| BIO 323 | Intro Molecular & Cell Bio (Bio 105, Chem 105 and/or C/Chem 106, or Chem 101,102 w/B) | B | (3) \_\_\_\_ |
| BIO 491 | Senior Survey\*\*\* | B | (0) \_\_\_\_ |

**Required Courses (29 Credits)**

|  |  |  |  |
| --- | --- | --- | --- |
| CHEM 105 | General Chemistry I (NS)(XL) | B | (5) \_\_\_\_ |
| CHEM 106 | General Chemistry II (NS)(XL) | B | (5) \_\_\_\_ |
| CHEM 234 | Organic Chemistry Lab I (Co-req 235) | B | (1) \_\_\_\_ |
| CHEM 235 | Organic Chemistry I (NS)(Chem 106 w/C)(Co-req 234) | B | (3) \_\_\_\_ |
| CHEM 303 | Biochemistry: Clinical Emphasis (Chem 335) | B | (3) \_\_\_\_ |
| CHEM 334 | Organic Chemistry Lab II (Chem 234,235 w/C)(Co-req 335) | B | (1) \_\_\_\_ |
| CHEM 335 | Organic Chemistry II (Chem 235 w/C)(Co-req 334) | B | (3) \_\_\_\_ |
| PHY/AST 107 | General Physics (NS)(XL)(Math 106, 108) | F | (5) \_\_\_\_ |
|  **OR** |  |  |  |
| PHY/AST 109 | General Physics (NS)(XL)(C/Math 171) | F | (5) \_\_\_\_ |
| MATH | 1 term of Calculus or higher |  | (3) \_\_\_\_ |

**Additional Required Courses (18 Credits)**

|  |  |  |  |
| --- | --- | --- | --- |
| BIO 309 | Bacteriology (NS)(Bio 105, 1 year general Chem) | B | (5) \_\_\_\_ |
| BIO 327 | Microbial Ecology & Diversity (Bio 231 or 233 or 309) | F | (3) \_\_\_\_ |
| BIO 341 | Immunology (Bio 323) | F | (3) \_\_\_\_ |
| BIO 375 | Microbial Genetics (Bio 309, 343) | F | (3) \_\_\_\_ |
| BIO 450 | Microbial Physiology (NS)(Bio 309) | F | (5) \_\_\_\_ |

**Two of the following laboratory-only courses\*\* (4-6 Credits)**

|  |  |  |  |
| --- | --- | --- | --- |
| BIO 313 | Medical Bacteriology Lab (NS)(Bio 309 and 341, C/Bio 312) | S | (2) \_\_\_\_ |
| BIO 374 | Cell/Immunology Lab (NS)(C/Bio 341 or 372) | F | (3) \_\_\_\_ |
| BIO 377 | Microbial Genetics Lab (NS)(Bio 309 and 375) | F | (2) \_\_\_\_ |
| BIO 390 | Biotechnology Lab (NS)(Bio 309) | S | (2) \_\_\_\_ |

**Electives (7-8 Credits)**

|  |  |  |  |
| --- | --- | --- | --- |
| BIO 301 | Internship in Microbiology\* | B | (1-6) \_\_\_\_ |
| BIO 303 | Introduction to Epidemiology (Bio 105) | F | (2) \_\_\_\_ |
| BIO 306 | Neurobiology (Bio 105) | S | (3) \_\_\_\_ |
| BIO 312 | Medical Bacteriology Lecture (Bio 309 and 341) | S | (2) \_\_\_\_ |
| BIO 313 | Medical Bacteriology Lab (NS)(Bio 309 and 341, C/Bio 312) | S | (2) \_\_\_\_ |
| BIO 315 | Virology (Bio 323) | S | (3) \_\_\_\_ |
| BIO 321 | Mycology (NS)(1 term general Bio) | F | (3) \_\_\_\_ |
| BIO 338 | Environmental Toxicology (Bio 105) | S | (2) \_\_\_\_ |
| BIO 339 | Public Health and Food Microbiology (NS)(Bio 309) | S | (3) \_\_\_\_ |
| BIO 343 | Genetics – Lecture and Lab (NS)(Bio 323) | B | (4) \_\_\_\_ |
| BIO 349 | Ecology and Evolution (1 term general Bio) | B | (3) \_\_\_\_ |
| BIO 354 | Parasitology (NS)(1 term general Bio and Bio 230) | S | (3) \_\_\_\_ |
| BIO 374 | Cell/Immunology Lab (NS)(C/Bio 341 or 372) | F | (3) \_\_\_\_ |
| BIO 377 | Microbial Genetics Lab (NS)(Bio 309 and 375) | F | (2) \_\_\_\_ |
| BIO 389 | Principles of Biotechnology (Bio 323 and 343) | S | (3) \_\_\_\_ |
| BIO 446 | Independent Study\* | B | (1-3) \_\_\_\_ |
| BIO 456 | Related Readings\* | B | (1-3) \_\_\_\_ |

Pre-requisites are in parentheses

S = Spring

F = Fall

B = Both Fall & Spring

C/ = Concurrent enrollment

\*No more than **six** credits of Bio 301 and/or Bio 446 and 456 can be counted towards degree

\*\*It is recommended that lab-only courses are taken with corresponding elective

\*\*\*During their last semester senior students will take a general biology assessment exam and fill out a survey to express their opinion of the program. These will be taken together at the Testing Center at the student’s convenience (during normal Testing Center hours). Completion of both is a graduation requirement.

**Must meet General Education *and* Degree Requirements to earn BS Degree**

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