## B.S. in Microbiology Graduation Checklist

### Microbiology Major Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BCMB(BIOL)(CHEM) 3100</td>
<td>Intro Biochemistry and Molecular Biology or BCMB 4020 - Biochemistry and Molecular Biology II</td>
<td>4 hrs</td>
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<tr>
<td>GENE(BIOL) 3200</td>
<td>Genetics</td>
<td>4 hrs</td>
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<tr>
<td>MIBO 3500</td>
<td>Introductory Microbiology</td>
<td>3 hrs</td>
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<tr>
<td>MIBO 3510L</td>
<td>Introductory Microbiology Laboratory</td>
<td>3 hrs</td>
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<tr>
<td>MIBO 4090</td>
<td>Prokaryotic Biology</td>
<td>3 hrs</td>
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### MAJOR REQUIRED I (Intensive MIBO Lab) – Choose one

- BCMB 4030L (4 hrs) - Lab Techniques in BCMB
- BIOL(CBIO) 5050L (3 hrs) - Electron Microscopy Laboratory
- BTEC(BCMB)(PBIO) 4000L (4 hrs) - Methods in Biotechnology
- CBIO(BIOL) 3410L (4 hrs) - Laboratory in Cellular and Developmental Biology
- GENE(BIOL) 4210L (4 hrs) - Molecular Genetics Laboratory
- MIBO 4600L (4 hrs) - Experimental Microbiology Lab
- MIBO 4970H (4 hrs) - Honors Research
- Two semesters of MIBO 4900L (4hrs each) - Directed Research
- POPH(MIBO)(IDIS) 4450-4450L and MIBO 4900L or MIBO 4960H (4 hrs)

### MAJOR REQUIRED II - Choose two

- CBIO(MIBO)(IDIS) 4100 (3 hrs) - Immunology
- EHSC(FDST)(MIBO) 4310/4310L (4 hrs) - Environmental Microbiology
- MARS(MIBO) 4620 (3 hrs) - Microbial Ecology
- POPH(MIBO)(IDIS) 4650 (3 hrs) - Introduction to Virology
- POPH(MIBO)(IDIS) 4651 (3 hrs) - RNA Virus Genomic Diversity
- MIBO(POPH) 4220S (3 hrs) - Pathogenic Bacteriology
- MIBO 4300 (3 hrs) - Microbial Diversity and Evolution
- POPH(MIBO)(IDIS) 4450/4450L (4 hrs) - Microbial Genetics and Genomics
- MIBO 4500 (3 hrs) - Bacterial Symbioses
- MIBO 4600L (4 hrs) - Experimental Microbiology Lab
- MIBO 4680 (4 hrs) - Industrial Microbiology and Biotechnology
- MIBO 4700 (3 hrs) - Medical Mycology

### MAJOR REQUIRED III (Upper level science elective) – Choose one from any 3-4 hr credit upper level 3000/4000-level course in MIBO, BIOL, BCMB, CBIO, GENE, ECOL or PMCY; or any of the following courses.

- CRSS(MIBO) 4610/4610L (3 hrs) - Soil Microbiology
- ENTO 3140 (4 hrs) - Insect Natural History
- ENTO 3645 (3 hrs) - Medical Entomology Lecture
- ENTO 3650 (4 hrs) - Medical Entomology
- ENTO 4000 (4 hrs) - General Entomology
- FDST(MIBO) 4030/4030L (3 hrs) - Food Microbiology
- FDST(MIBO) 4120/4120L (3 hrs) - Food Fermentations
- FDST(EHSC)(MIBO) 4320/4320L (3 hrs) - Hazard Analysis Critical Point in the Food Industry
- VPHY 3100 (3 hrs) - Elements of Physiology
- MARS 3450/3450L (4 hrs) - Marine Biology
- MARS(FISH) 4380/4380L (3 hrs) - Marine Fisheries Biology
- MARS(MIBO) 4620 (3 hrs) - Microbial Ecology
- MARS 4810/4810L (3 hrs) - Global Biogeochemical Cycles
- PMCY 3000 (4 hrs) - Human Physiology
- PSYC 4120 (3 hrs) - Sensation and Perception
- PSYC 4130 (3 hrs) - Physiological and Comparative Psychology

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<tr>
<td>CHEM 2212/2212L</td>
<td>Modern Organic Chemistry II or CHEM 2312H/2312L (4 hrs) - Advanced Organic Chemistry II (Honors)</td>
<td>(Honors)</td>
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<tr>
<td>PHYS 1111/1111L</td>
<td>Introductory Physics-Electricity and Magnetism, Optics, Modern Physics or PHYS 1211/1211L (4 hrs) - Principles of Physics for Scientists and Engineers – Mechanics, Waves, Thermodynamics</td>
<td>(Honors)</td>
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<tr>
<td>PHYS 1112/1112L</td>
<td>Introductory Physics-Electricity and Magnetism, Optics, Modern Physics or PHYS 1212/1212L (4 hrs) - Principles of Physics for Scientists and Engineers – Electricity and Magnetism, Optics, Modern Physics</td>
<td>(Honors)</td>
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### Computer Science • Math • Statistics

Choose one course from the following:

- BINF(BCMB) 4005 (2 hrs) - Essential Computing Skills for Biologists
- BIOS 2010 (4 hrs) - Biostatistics for Public Health Sciences
- CSCI 1210 (3 hrs) - Computer Modeling and Science
- CSCI 1301/1301L (4 hrs) - Introduction to Computing and Programming
- GENE 4220L (3 hrs) - Bioinformatics and Modeling Laboratory
- PBIO(BIOL)(BINF) 4550 (3 hrs) - Bioinformatics Applications
- MATH 2260 (4 hrs) - Calculus for Science and Engineering
- STAT 2000 (4 hrs) - Introductory Statistics
- STAT 2100H (4 hrs) - Introduction to Statistics and Computing (Honors)