# B.S. in Microbiology Graduation Checklist

## Microbiology Major Requirements
- BCMB 3100 (4 hrs) - Intro Biochemistry and Molecular Biology
  or BCMB 4020 (3 hrs) - Biochemistry and Molecular Biology II
- MIBO 3500 (3 hrs) - Introductory Microbiology
- MIBO 3510L (3 hrs) - Introductory Microbiology Laboratory
- MIBO 4090 (3 hrs) - Prokaryotic Biology
- MIBO 4300 (2 hrs) - Microbial Diversity and Evolution
  (POPH)(MIBO)(IDIS) 4450-4450L (4 hrs) – Microbial Genetics and Genomics or GENE 3200 (4 hrs) Genetics

## MAJOR REQUIRED I (Intensive MIBO Lab) – Choose one

*The following also fulfill the Experiential Learning Requirement.*
- MIBO 4600L (4 hrs) – Experimental Microbiology Lab
- MIBO 4970H (4 hrs) – Honors Research
- MIBO 4970L (4 hrs) – Directed Research*
- Two semesters of MIBO 4900L (4 hrs each) – Directed Research

*Pending CAPA approval

## MAJOR REQUIRED II - Choose two

- CBIO(MIBO)(IDIS) 4100 (3 hrs) - Immunology
- EHSC(FDST)(MIBO) 4310-4310L (4 hrs) – Environmental Microbiology
- FDST(MIBO) 4120-4120L (3 hrs) – Food Fermentations
- MARS(MIBO) 4620 (3 hrs) – Microbial Ecology
- MIBO(POH) 4220 or 4220S (3 hrs) – Pathogenic Bacteriology
- 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
- POPH(MIBO)(IDIS) 4650 (3 hrs) – Introduction to Virology
- POPH(MIBO)(IDIS) 4450-4450L (4 hrs) – Microbial Genetics and Genomics**

**Only if POPH(MIBO)(IDIS) 4450 not used in Major Requirements

## MAJOR REQUIRED III (Upper level science elective) – Choose one from any 3-4 hour course below.

- CRSS(MIBO) 4610-4610L (3 hrs) – Soil Microbiology
- MIBO 4500 (3 hrs) – Bacterial Symbioses
- EHSC(FDST)(MIBO) 4310-4310L (4 hrs) – Environmental Microbiology
- MARS(MIBO) 4620 (3 hrs) – Microbial Ecology
- MIBO 4600L (4 hrs) – Experimental Microbiology Lab***
- MIBO 4680 (4 hrs) – Industrial Microbiology and Biotechnology
- POPH(MIBO)(IDIS) 4450-4450L (4 hrs) – Microbial Genetics and Genomics****

***can be used to satisfy Major Required III only if not used for Major Required I

****Only if POPH(MIBO)(IDIS) 4450 not used in Major Requirements or Major Required II

## Major Required

- PHYS 1111/1111L (4 hrs) – Introductory Physics-Mechanics, Waves, Thermodynamics or
- PHYS 1211/1211L (4 hrs) – Principles of Physics for Scientists and Engineers – Mechanics, Waves, Thermodynamics and
- PHYS 1112/1112L (4 hrs) – 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

## Computer Science • Math • Statistics

Choose one course from the following:
- BINF(BCBM) 4005 (2 hrs) – Essential Computing Skills for Biologists
- BIOS 2010-2010L (4 hrs) – Elementary Biostatistics
- CSCI 1210 (3 hrs) – Computer Modeling and Science
- CSCI 1301/1301L (4 hrs) – Introduction to Computing and Programming
- BIOE 8110 (3 hrs) – Biological Engineering
- GENE 4220L (3 hrs) – Bioinformatics Laboratory
- BINF(PBIO) 4550 (3 hrs) – Concepts in Bioinformatics and Omics
- MATH 2260 (4 hrs) – Calculus II for Science and Engineering
- MATH(BINF) 4780 (3 hrs) – Mathematical Biology
- STAT 2000 or 2100H (4 hrs) – Introductory Statistics
- STAT 3110 (3 hrs) – Intro to Statistics for Life Sciences
- STAT 3120 (3 hrs) – Intro to Probability for Life Sciences

*Revised 201807*