Graduation Requirements for Microbiology Majors at SEBS

- SEBS Core Requirements (39 credits)

- Microbiology Major

A. Introductory Life and Physical Sciences (46 credits)
01:119:115-116 General Biology (4,4)
01:119:117 Biological Research Laboratory (2)
01:160:161-162 General Chemistry (4,4)
01:160:171 Introduction to Experimentation (1)
01:640:151 Calculus for Mathematics and Physical Sciences (4)
01:960:401 Basic Stats for Research (3) (other calculus courses may be substituted)
01:160:370 - 308 Organic Chemistry (4,4)* OR 01:160:315 - 316 Principles of Organic Chemistry (4,4)
01:447:380 Genetics (4)
01:750:193 - 194 Physics for the Sciences (4,4)* or equivalent

*Students intending to apply to medical school should be aware that many schools require laboratories in organic chemistry and physics.

B. Core Microbiology (44 Credits, including electives)

11:680:390 General Microbiology (*Must pass General Microbiology with a minimum grade of C to satisfy prerequisite requirement for: 11:680:401, 11:680:491; 11:680:492; 11:680:494; 11:680:480 and 11:680:481)
11:680:480 Microbial Genetics and Genomics or 11:126:481 Molecular Genetics (3)
11:680:481 Microbial Physiology (3)
11:680:491 Microbial Ecology and Diversity (3)
11:680:494 Applied Microbiology (4)
11:680:401 Ethics and Issues in Microbiology (1)
11:680:495 Seminar in Microbiology (1)
11:115:403 - 404 General Biochemistry
11:115:413 Experimental Biochemistry (3)

Microbiology Electives (15) (Semesters Taught)
*Please note that no more than one course with a grade of D may be used to fulfill the Core Microbiology requirements of the major.

11:126:407 Comparative Virology (3) *(Fall every other year)*
11:126:427 Methods in Applications in Molecular Biology (4) *(Fall)*
11:126:482 Molecular Genetics Laboratory (3) *(Spring)*
11:126:484 Tools for Bioinformatic Analysis (3) *(Spring)*
11:126:485 Bioinformatics *(Fall)*
01:146:328 Human Parasitology (3) *(Fall)*
01:146:340 Virology (3) *(Fall, even years only)*
01:146:474 Immunology (3) *(Fall)*
01:146:475 Laboratory in Immunology (1) *(Spring)*
11:216:405 Evolution in Infectious Diseases (3) *(Spring)*

11:375:302 Water and Wastewater Treatment (3) *(Fall)*
11:375:312 Environmental Microbiology Laboratory (2) *(Fall)*
11:375:411 Environmental Microbiology (3) *(Spring)*
11:375:453 Soil Ecology (3) *(Fall)*
11:400:423 Food Microbiology (3) *(Spring)*
01:447:392 Pathogenic Microbiology (3) *(Fall)*
01:447:480 Topics in Molecular Genetics (3) *(Spring)*
11:680:410 Microbiology and Culture of Cheese and Wine (3) *(Summer)*
11:680:486 Analytical Methods in Microbiology (3) *(Spring, even years)*
11:680:492 Microbial Ecology Laboratory (3) *(Spring, odd years)*
11:680:475 Microbiomes and Health (3) *(Spring)*
11:776:302 General Plant Pathology (3) *(Fall)*
11:776:400 Fungi in the Environment (3) *(Fall)*
11:680:497, 498 Research in Microbiology *(Fall/Spring/Summer) - One to three credits of research may be substituted for an equal number of credits of elective courses, with the approval of the curriculum coordinator.*

C. UNSPECIFIED ELECTIVES (up to 3)