The University of Georgia
Franklin College of Arts and Sciences
Department of Microbiology
BS Microbiology-Spring 2025

Graduation and Program Requirements

____ US & GA Constitution	____ Cultural Diversity	____ Physical Science	____ Social Sciences (Two Required)
____ US & GA History	____ FYOS 1001	____ History	____ FA/PHIL/RELI (Two Required)
____ Physical Education	____ Experiential Learning (MIBO 4970R or MIBO 4600L)		
____ Literature	____ Foreign Language (LANG 2001)		____ Biological Science
____ Environmental Awareness (MIBO 3510L)		____ Multicultural Course	

Area I: Foundation Courses (6-9 Hours) **Hours: ____**

____ 3 ENGL 1101 English Composition I
____ 3 ENGL 1102 English Composition II
____ 3 MATH 1113 or Higher Pre-Calculus

Area II: Sciences (8 Hours) **Hours: ____**

____ 4 CHEM 1211-1211L Freshman Chemistry I (Preferred; Requires MATH 1113)
____ 4 BIOL 1107-1107L Principles of Biology I (Preferred; Requires CHEM 1211-1211L)

Area III: Quantitative Reasoning (4 Hours) **Hours: ____**

____ 4 MATH 2250 Calculus I for Science and Engineering (Preferred; Requires MATH 1113)

Area IV: World Languages and Culture; Humanities and the Arts (12-14 Hours) **Hours: ____**

____ 3 World Language and Culture _____
____ 3 World Language and Culture _____
____ 3 World Language and Culture _____
____ 3 Humanities and the Arts _____

Area V: Social Sciences (9 Hours) **Hours: ____**

____ 3 POLS 1101 American Government (Satisfies U.S. & Georgia Constitution requirement)
____ 3 HIST 2111/2112 American History to/since 1865 (Satisfies U.S. & Georgia History requirement)
____ 3 Social Science _____

Area VI: Courses Related to the Major (20 Hours) **Hours: ____**

____ 4 MATH 2250 Calculus I
____ 4 BIOL 1108-1108L Principles of Biology II (Requires BIOL 1107-1107L)
____ 4 CHEM 1211-1211L Freshman Chemistry I (Requires MATH 1113)
____ 4 CHEM 1212-1212L Freshman Chemistry II (Requires CHEM 1211-1211L)
____ 4 CHEM 2211-2211L Modern Organic Chemistry I (Requires CHEM 1212)

****NOTE:** If any courses in Area VI have been used to satisfy Areas II-V of Core Curriculum, General Electives may be taken here. Microbiology requires individual review of non-equivalent transfer courses before they can be used to satisfy Area VI and Major Requirements

Entrance Requirements: Students must earn a grade of **"C-" (1.7)** or better in **CHEM 1211-1211L, CHEM 1212-1212L, BIOL 1107-BIOL 1107L**, **BIOL 1108-1108L** and **CHEM 2211-2211L** to complete the Microbiology degree.

Major Requirements: A baccalaureate degree program must require at least 21 semester hours of upper division courses in the major field and at least 39 hours of upper division work overall. Students in the Franklin College must earn a grade of **"C" (2.0)** or above in major required courses

Required Courses (31-35 hours) **Hours: ____**

____ 4 BCMB 3100 or BCMB 4020 Introductory Biochemistry and Molecular Biology (Requires CHEM 2211-2211L and BIOL 1107)
____ 4 MIBO 3500-3500L Introductory Microbiology and Lab I (Requires CHEM 2211-CHEM 2111L and BIOL 1107-1107L)
____ 3 MIBO 3510L Introductory Microbiology Lab (Requires MIBO 3500)(satisfies Environmental Awareness requirement)
____ 4 MIBO 4090/6090 Prokaryotic Biology (Requires MIBO 3500 or MIBO 3500E)
____ 4 GENE 3200-3200D Genetics (Requires BIOL 1107)

Major I Choose one option from the following (4 hours). Either course satisfies the Experiential Learning requirement:

____ 4 MIBO 4600L/6600L Experimental Microbiology Laboratory (Requires MIBO 3500 and MIBO 3510, **Fall only**)
____ 1-6MIBO 4970R* Faculty-Mentored Undergraduate Research II (Requires POD and MIBO 4960R)

Major II Choose two courses from the following (6-8 hours):

____ 4 CBIO/MIBO/IDIS 4100/6100-4100DImmunology (Requires BCMB 3100 and GENE 3200)
____ 4 EHSC/FDST/MIBO 4310/6310-4310L Environmental Microbiology (Requires MIBO 3500, **Spring only**)
____ 4 FDST/MIBO 4120/6120-4120L/6120L Food Fermentations (Requires MIBO 3500, **Fall only**)
____ 3 GENE 3210L Experimental Genetics (Requires GENE 3200, **Fall only**)
____ 3 GENE 4520/6520 Genetics of Industrial Micro-Organisms (Requires GENE 3200, **Spring Odd Year only**)
____ 4 GENE 4240L** Experimental Microbiome Genetics Laboratory (Requires GENE 3200, **Spring only**)
____ 4 MARS(MIBO) 4620/6620 Microbial Ecology (Requires MIBO 3500 or POD**, Fall Odd Year only**)
____ 3 MIBO(POPH) 4220/6220 or 4220S Pathogenic Bacteriology (Requires MIBO 3500, **Spring only**)
____ 3 MIBO 4300/6300 Genome Editing in Mammals, Plants, Insects, and Microbes (Requires MIBO 3500, **Fall only**)
____ 4 MIBO 4450/6450-4450L/6450L** Microbial Genetics and Genomics (**Spring**)
____ 4 MIBO 4600L/6600L** Experimental Microbiology Laboratory (Requires MIBO 3500 and MIBO 3510)
____ 3 MIBO 4700/6700 Medical Mycology (Requires BIOL 1108, **Spring only**)
____ 3 POPH(MIBO)(IDIS) 4650/6650 Introduction to Virology (Requires BCMB 3100, GENE 3200, and MIBO 3500, **Fall only**)

Major III Choose one course from the following (3-4 hours):

____ 3 BCMB 3600 Genomics and Bioinformatics (Requires BCMB 3100, **Spring only**)
____ 4 BCMB 4030L/6030L Bioprocess Technology (Requires BIOL 1107 and CHEM 1212)
____ 4 CRSS(MIBO) 4610/6610-4610L/6610L Soil Microbiology
____ 4 CBIO 3400 Cell Biology (Requires BCMB 3100 and GENE 3200)
____ 3 CBIO 4500/6500 Medical Parasitology (Requires BIOL 1108, **Fall Even Year only**)
____ 4 CBIO(PBIO) 4600/6600 Biology of Protists (Requires BIOL 1108, **Spring only**)
____ 4 ECOL(BIOL)4150/6150-4150L/6150L Population Biology of Infectious Diseases (BIOL1108 and MATH 2250/STAT 2000, **Spring only**)
____ 4 EHSC/FDST/MIBO 4310/6310-4310L Environmental Microbiology (Requires MIBO 3500, **Spring only**)
____ 3 GENE 4240L** Experimental Microbiome Genetics Laboratory (Requires GENE 3200, **Spring only**)
____ 4 MARS(MIBO) 4620/6620 Microbial Ecology (Requires MIBO 3500 or POD**, Fall Odd Year only**)
____ 4 MIBO 4600L/6600L** Experimental Microbiology Laboratory (Requires MIBO 3500 and MIBO 3510, **Fall only**)
____ 4 MIBO 4450/6450-4450L/6450L** Microbial Genetics and Genomics (**Spring**)
____ 4 PATH 4200/6200-4200L/6200L Mycology (**Fall)**

*Four hours of research courses (MIBO 4960R, MIBO 4970R, MIBO 4980R, and MIBO 4990R) may be used toward the required courses unless the student uses a MIBO research class for the laboratory skills requirement. Students are encouraged to use additional research hours as electives.

**GENE 4240L, MIBO 4450/6450-4450L/6450L, and MIBO 4600L/6600L may be used for a single requirement listing but cannot be used to fulfill an additional requirement simultaneously.

Major Electives (11-12 hours) Note: Microbiology requires individual review of non-equivalent transfer courses to satisfy Major Electives.

Physics I & II (8 hours) **Hours: ____**

____ 4 PHYS 1111-1111L or PHYS 1211-1211L Physics I (Requires MATH 1113 (PHYS 1111) or MATH 2250 (PHYS 1211))
____ 4 PHYS 1112-1112L or PHYS 1212-1212L Physics II (Requires MATH 2260 (PHYS 1212))

Computer Sciences, Mathematics, Statistics: Choose one course from the following (3-4 hours)

____ 2	BINF(BCMB) 4005/6005	Essential Computing Skills for Biologists (Requires POD, **Fall only**)
____ 3	BINF(PBIO) 4550/6550	Concepts in Bioinformatics and Omics (**Fall only**)
____ 4	BIOS 2010	Elementary Biostatistics
____ 3	CSCI 1210	Computer Modeling and Science
____ 4	CSCI 1301-1301L	Introduction to Computing and Programming (Requires MATH 1113)
____ 3	GENE 4220L	Laboratory in Genetic Modeling (Requires GENE 3200, **Fall only**)
____ 4	MATH 2260	Calculus II (Requires MATH 2250)
____ 3	MATH(BINF) 4780/6780	Mathematical Biology(Requires MATH 2270, MATH 2700 and POD, **Spring Odd Year only**)
____ 4	STAT 2000	Introduction to Statistics
____ 4	STAT 2100H	Introduction to Statistics and Computing (Honors)
____ 3	STAT 3110	Introduction to Statistics for Life Sciences (**Fall only**)
____ 4	STAT 3120	Introduction to Probability for Life Sciences (Requires MATH 2250, **Spring only**)

General Electives (13-18 Hours) / Upper Division Elective (0-10 Hours) **Hours: ____**

Minimum Semester Hours: 120 (This total does not include the 1-hour PEDB course) **Total : ____ /120**