

**The University of Georgia
Franklin College of Arts and Sciences
Department of Microbiology
BS Microbiology-Spring 2026**

Graduation and Program Requirements

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

Area I: Foundation Courses (6-9 Hours)

	3	<i>ENGL 1001</i>	<i>English Composition I</i>
	3	<i>ENGL 1002</i>	<i>English Composition II</i>
	3	<i>Math 1113 or Higher</i>	<i>Pre-Calculus</i>

Area II: Sciences (8 Hours)

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

Area III: Quantitative Reasoning (4 Hours)

	4	<i>MATH 2250</i>	<i>Calculus I for Science and Engineering (Preferred; Requires MATH 1113)</i>
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Area IV: World Languages and Culture; Humanities and the Arts (12-14 Hours)

	3	<i>World Language and Culture</i>	
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	3	<i>Humanities and the Arts</i>	

Area V: Social Sciences (9 Hours)

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

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

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

****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)

	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, Spring)
	1-6	MIBO 4970R*	Faculty-Mentored Undergraduate Research II (Requires POD and MIBO 4960R)

*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.

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

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

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

	3	BCMB 3600	Genomics and Bioinformatics (Requires BCMB 3100, Spring)
	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)
	4	CBIO(PBIO) 4600/6600	Biology of Protists (Requires BIOL 1108, Spring)
	4	ECOL(BIOL)4150/6150-4150L/6150L	Population Biology of Infectious Diseases (BIOL1108 and MATH 2250/STAT 2000, Spring)
	4	EHSC/FDST/MIBO 4310/6310-4310L	Environmental Microbiology (Requires MIBO 3500, Spring)
	3	GENE 4240L **	Experimental Microbiome Genetics Laboratory (Requires GENE 3200, Spring)
	4	MARS(MIBO) 4620/6620	Microbial Ecology (Requires MIBO 3500 or POD, Fall Odd Year)
	4	MIBO 4600L/6600L **	Experimental Microbiology Laboratory (Requires MIBO 3500 and MIBO 3510, Fall)
	4	MIBO 4450/6450-4450L/6450L **	Microbial Genetics and Genomics (Fall)
	4	PATH 4200/6200-4200L/6200L	Mycology (Fall)
	3	PBIO(CRSS) 4500	Introduction to Gene Technology
	3	POPH(IDIS) 4750	Decoding Disease: Computational Tools for Pathogen Analytics

**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)

	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)
	3	BINF(PBIO) 4550/6550	Concepts in Bioinformatics and Omics (Fall)
	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)
	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)
	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)
	4	STAT 3120	Introduction to Probability for Life Sciences (Requires MATH 2250, Spring)

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

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