

# Curriculum - Microbiology (Medical Microbiology), BS

Catalog Year: 2025 - 2026 **General Studies Gold**

**Degree:** Bachelor of Science, BS

**College/School:** [The College of Liberal Arts and Sciences](#)

**Plan Code:** LAMICMBS

**Minimum credit hours:** 120

**Upper division minimum credit hours:** 45

Requirement	Minimum Grade	Credit Hours
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## Major Requirements

A minimum of 12 upper-division credit hours used toward the major requirements must be taken from The College of Liberal Arts and Sciences. When selecting courses, the college offering the course can be identified by viewing the course details in the class search.

## Core Requirements

<b>BIO 181 General Biology I (SCIT)</b>	C	4
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<b>BIO 182 General Biology II (SCIT)</b>	C	4
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**MBB 347 Molecular Genetics: From Genes to Proteins**

**OR** **BIO 340 General Genetics**

MBB 347 Molecular Genetics provide MIC and MIC (Medical Microbiology) majors with a deeper understanding of the specific genetic mechanisms and molecular processes that are directly relevant to microbiology. Students gain experience using molecular genetics tools and techniques, which are essential skills for careers in medical microbiology, biotechnology, environmental microbiology.

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<b>MIC 220 Biology of Microorganisms Laboratory (SCIT)</b> <b>AND</b> <b>MIC 206 Microbiology</b>	C	4
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Requirement	Minimum Grade	Credit Hours
<p><b>MIC 401 Research Paper</b></p> <p>MIC 401 is the Microbiology Research Paper course that requires permission before enrolling. Please consult with an advisor at least a semester prior to enrolling to verify course requirements.</p>	C	1
<p><b>Concentration Requirements</b></p>		
<p><b>BIO 312 Bioethics (HUAD)</b></p> <p><b>OR</b> <b>BIO 416 Biomedical Research Ethics (CIVI)</b></p> <p>BIO 312 or BIO 416 will fulfill the upper division Science and Society Elective.</p>	C	3
<p><b>BIO 353 Cell Biology</b></p>	C	3
<p><b>MIC 420 Immunology: Molecular and Cellular Foundations</b></p> <p><b>OR</b> <b>BIO 420 Immunology: Molecular and Cellular Foundations</b></p>	C	3
<p>Take one course from the Biomedicine list and one course from Microbes list.</p>		
<p><b>Upper Division Biomedicine Course</b></p> <hr/> <p><b>ASB 462 Medical Anthropology: Culture and Health (SOBE)</b></p> <hr/> <p><b>BIO 302 Cancer--Mother of All Diseases</b></p> <hr/> <p><b>BIO 343 / MBB 343 Genetic Engineering and Society</b></p> <hr/> <p><b>BIO 345 Evolution</b></p> <hr/> <p><b>BIO 351 Developmental Biology</b></p> <hr/> <p><b>BIO 451 Cell Biotechnology: Cell Culture, Immunocytochemistry and Bioimaging</b></p> <hr/> <p><b>MIC 445 / MBB 445 Techniques in Molecular Biology/Genetics</b></p> <hr/> <p><b>MIC 446 / MBB 446 Techniques in Molecular Biology/Genetics Lab</b></p> <hr/> <p><b>MIC 494 / BIO 494 Topic: Biotechnology Viruses as Tools</b></p> <hr/>	C	3

**Requirement****Minimum  
Grade****Credit  
Hours****MIC 494 Topic: Novel Biomedical Models of Infectious Disease**

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**Upper Division Microbes Course****BIO 390 Medical/Dental Field Placement** or **BIO 484 / MIC 484 Internship**

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**BIO 492 / MBB 492 / MIC 492 Honors Directed Study**

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**BIO 495 / MBB 495 / MIC 495 Undergraduate Research**

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**MIC 302 Advanced Bacteriology Laboratory**

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**MIC 314 HIV/AIDS: Science, Behavior, and Society**

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**MIC 360 Bacterial Physiology**

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**MIC 379 Medical Bacteriology**

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**MIC 425 Advanced Immunology**

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**MIC 441 Bacterial Genetics**

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**MIC 442 Bacterial Genetics Laboratory**

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**MIC 485 General Virology**

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**MIC 494 Topic: Human Pathogenic Viruses**

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Take two courses from the Concentration Elective Course list.

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Requirement	Minimum Grade	Credit Hours
<b>Upper Division Concentration Elective Courses</b>		
<b>BIO 360 Animal Physiology</b>		
<b>BIO 318 / HPS 331 History of Medicine (HUAD)</b>		
<b>MIC 314 / SSH 314 HIV/AIDS: Science, Behavior, and Society</b>	C	5 - 6
<b>MIC 379 Medical Bacteriology</b>		
<b>MIC 421 Experimental Immunology</b>		
<b>MIC 485 General Virology</b>		

## The College Requirements

Mathematics Proficiency Requirement: All students are required to obtain a grade of "C" or higher in any course that satisfies the ASU General Studies MATH requirement.

Science and Society Requirement: All students pursuing a BS or BSP degree in The College of Liberal Arts and Sciences must complete two courses from the Science and Society list found at <https://thecollege.asu.edu/student-resources/science-society>. At least one of the two courses must be upper division and students must earn a C or better in the courses. Both Science and Society courses (i.e., all six credits) may count towards any major, minor, related fields, and ASU General Studies requirements.

Science and Society Elective	C	3
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## Additional Requirements

<b>CHM 113 General Chemistry I (SCIT)</b>	C	4
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<b>CHM 116 General Chemistry II (SCIT)</b>	C	4
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<b>CHM 231 Elementary Organic Chemistry (SCIT) AND CHM 235 Elementary Organic Chemistry Laboratory (SCIT)</b>	C	4
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Pre-health students may need CHM 233 & 237 and CHM 234 & 238, not CHM 231 & 235. Please see advisor for more details.

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<b>MAT 251 Calculus for Life Sciences (MATH)</b>	C	3
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**PHY 101 Introduction to Physics (SCIT)**

Pre-health students may need PHY 111 & 113 and PHY 112 & 114, not PHY 101. Please see advisor for more details.

C	4
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**STP 231 Statistics for Life Science (QTRS)**

C	3
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**BCH 361 Advanced Principles of Biochemistry AND BCH 367  
Elementary Biochemistry Laboratory**

C	4
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**ASU 101 or College-Specific First-Year Seminar**

ASU 101 or college-specific equivalent First-Year Seminar required of all first-year students.

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**LIA 101 Student Success in The College of Liberal Arts and Sciences**

**OR ASU 101-LA The ASU Experience**

Students enrolled in a campus immersion degree enroll in LIA 101.  
Students enrolled in an online degree enroll in ASU 101-LA.

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**First-Year Composition**

**ENG 101 First-Year Composition AND ENG 102 First-Year  
Composition**

**OR ENG 105 Advanced First-Year Composition**

C	6
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**OR ENG 107 First-Year Composition AND ENG 108 First-Year  
Composition**

**Notes**

All baccalaureate degree students must fulfill university graduation requirements, including a minimum of 120 credit hours, with at least 45 credit hours in upper-division courses.

<https://catalog.asu.edu/undergraduatereq>

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All undergraduate students must complete General Studies requirements. [https://catalog.asu.edu/ug\\_gsr](https://catalog.asu.edu/ug_gsr)

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Mathematics Placement Assessment score determines placement in first mathematics course.

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Students should work with their academic advisor, and consider course prerequisites, in order to complete all degree requirements in four years.

General Studies designations listed next to courses were valid for the 2025 - 2026 academic year. Please refer to the course catalog for current General Studies designations at time of class registration. General Studies credit is applied according to the designation the course carries at the time the class is taken.