

BIO - 117 - Fundamentals of Microbiology

2025-2026 Course Proposal Form

Course Information

- Please select which best fits this course proposal:*
- Course New/Reactivation Proposal
 - Course Revision Proposal
 - Course Retirement Proposal
 - Course Outcomes Revision Proposal

Department*

Science

IF proposing a new course type or prefix, please select "NEW Course Type or NEW Prefix" from the dropdown and input the requested data in the new text field that follows.

Course Type:*

Biology

NEW Course Type:

NEW Prefix:

Prefix:*

BIO

Course Number:* 117

Course Title:* Fundamentals of Microbiology

Credit(s):* 4

Course Description:*

This course provides a thorough introduction to microbiology, emphasizing the structure, function, role, and diversity of microorganisms. Students will explore the evolutionary significance of microbes in shaping and maintaining the biosphere, as well as their ecological roles across various environments and their importance to human health. The topics will include medically significant microbes, such as pathogenic bacteria, viruses, fungi, and parasites. Students will also investigate mechanisms of infection, disease transmission, and the role of the immune system. The course includes both lectures and hands-on laboratory experiences, allowing students to apply their knowledge through practical exercises and experiments.

Lecture Hours:* 3

Laboratory Hours:* 2

Clinical Hours:* 0

Internship Hours:* 0

Prerequisite(s):

Corequisite(s):

Pre / Corequisite(s): ENG 101 or ENG 115

Required Materials* Check the bookstore for required materials.

Course Learning Outcomes:*

1. Describe the differences between various microbial life
2. Evaluate the impact of microbiology on public health, and ecosystems
3. Demonstrate proficiency in laboratory techniques for isolating, culturing, and identifying microorganisms.
4. Communicate findings and concepts related to microbiology through written reports and oral presentations

Student Learning Outcomes:*

1. Describe the structure and basic physiology of microorganisms. (1,2)
2. Identify and classify the major types of microorganisms, including bacteria, viruses, fungi, and selected parasites. (1,3)
3. Describe the evolutionary roles of microorganisms in shaping ecosystems and maintaining the biosphere. (2)
4. Identify genetic impacts on microbial functions (1)
5. Describe diverse metabolisms of microbial life and their impacts (1,2,3,4)
6. Explain interactions between microbes (2,3)
7. Compare and contrast Eukaryotic and Prokaryotic microbes (1)
8. Identify unique microbial life (1,2,4)
9. Report to others the various complexities of a unique bug (1,4)
10. Describe the viral life cycles (1,2)
11. Identify microbial life through standard staining techniques or media (1,3)
12. Describe how microbial systems interface with human health and society (2,4)
13. Identify Immune system functions that play a crucial role in responding to microbial threats (2)
14. Utilize techniques that isolate and select the microbial life (1,3)
15. Describe the importance of epidemiology for public health (2)

General Education Outcomes:

Please select **up to 2** from the list of the general education outcomes taught in this course.

Select up to 2 of the following:*

- Communicate effectively in oral and written formats
- Employ or utilize information access and literacy skills
- Demonstrate problem-solving and critical thinking skills
- Employ mathematical and science literacy skills
- Acquire a cultural, artistic and global perspective
- Demonstrate professional and human relations skills

Types of Formative Assessment:

Please select **at least 3** formative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Formative assessment tools are learning activities or assessments that monitor and provide ongoing feedback on student learning. Formative assessments allow students to identify their strengths and weaknesses and for instructors to address student questions and misunderstandings

Select at least 3 of the following:*

- Practice Quizzes
- Paper Drafts
- Class Discussions/Q&A
- Low-stakes Group Work
- Homework Assignment
- Surveys/Polls
- Laboratory/Instrument Practice
- Written Reflections
- Self-appraisal using study guides, quiz software, interactive textbook
- Other

Types of Summative Assessment:

Please select at least 2 summative assessment tools that are most appropriate to the course description and outcomes, regardless of modality. Summative assessment tools are learning activities or assessments that evaluate student learning at the end of an instructional period, like a module, unit, or course. Summative assessments are formally graded and allow instructors to determine whether and to what extent students have met the course learning outcomes.

Select at least 2 of the following:*

- Instructor-Created Exams/High-Stakes Quizzes
- Standardized Tests
- Laboratory Reports
- Final Projects
- Final Essays/Research Papers
- Final Presentations
- Final Reports
- Internships/ Clinical Site Evaluations
- Other

Minimum Acceptable Standards*

A "C" or 70% will be considered the minimum standard.

Please answer the following questions related to your curriculum proposal:


Why are you recommending these changes? (courses outdated, recommendation of advisory committee, results of assessment activities and data, better attainment of program/course outcomes)

Justification:*

The course is currently outdated, and does not align well with nursing who requires some changes to the program to fit into their curriculum. These changes should better align the course to the nursing program as well as modernize the course for better outcomes and assessment.

Last Semester Needed: NA

Impact Report Statement

List all program(s) or course(s) affected by these changes. If no program(s) or course(s) are affected, please state "NA" below. Run an Impact Report by clicking  in the top left corner and answer below according to the results.

Impact Report: NA

What impact will these changes have on other courses or programs? (List impacted programs and comments or input you have gathered from other faculty, program directors, or Division Chairs)

Other Courses or Programs: This should allow easier entry for nursing students from the nursing program, as current class form requires pre-reqs.

What impact will these changes have on institutional resources? (Budget, faculty, equipment, labs, instructional design, etc.) Have you already discussed this impact with appropriate personnel (financial aid, administration, division chair, other faculty)?

Institutional Resources: NA

What impact will these changes have on current students? How will you ensure that current students are not penalized by these changes?

Current Students: No impact should effect current students.

What impact will these changes have on transferability, national/regional association standards, etc.?

Transferability, National / Regional Association Standards, Etc.: Removing the pre-reqs may make it harder for the class to transfer as a "300" level class to other college.

What impact will these changes have on the institution's mission and student's achievement of general education outcomes/requirements?

Mission; General Education Outcomes / Requirements: These changes should better align the class to the college's mission to provide quality education.

Administrative Use Only

Please do not alter the information within this section.

Course OID:

Information or Voting Item: Information Item (If the proposal does not impact other courses, select this option)

Voting Item

**Implementation
Semester and Year***

Fall 2025

