Washtenaw Community College Comprehensive Report

BIO 147 Hospital Microbiology
Effective Term: Fall 2023

Course Cover

College: Math, Science and Engineering Tech
Division: Math, Science and Engineering Tech
Department: Life Sciences
Discipline: Biology
Course Number: 147
Org Number: 12110
Full Course Title: Hospital Microbiology
Transcript Title: Hospital Microbiology
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Three Year Review / Assessment Report
Change Information:
Consultation with all departments affected by this course is required.
Outcomes/Assessment
Rationale: This Master Syllabus update is based on the Assessment just filed.
Proposed Start Semester: Fall 2023
Course Description: In this course, students will be introduced to topics in microbiology involving human health and disease. Biological characteristics of bacteria and viruses are described and selected pathogens are discussed. The innate and adaptive defenses of the human body against microbial pathogens are described. The course also discusses appropriate use of antimicrobics and public health efforts to control pathogens, including vaccination and infection control.

Course Credit Hours

Variable hours: No
Credits: 1
Lecture Hours: Instructor: 15 **Student:** 15
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 15 **Student:** 15
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Identify major characteristics of diverse microbes.
   Assessment 1
   Assessment Tool: Outcome-related questions on unit and/or final exams or other evaluations.
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will answer each question correctly.
   Who will score and analyze the data: Biology department faculty

2. Identify the major innate and adaptive defenses of the human body against microbial pathogens.
   Assessment 1
   Assessment Tool: Outcome-related questions on unit and/or final exams or other evaluations.
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will answer each question correctly.
   Who will score and analyze the data: Biology Department Faculty

3. Identify the appropriate use of antimicrobics.
   Assessment 1
   Assessment Tool: Outcome-related questions on unit and/or final exams or other evaluations.
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will answer each question correctly.
   Who will score and analyze the data: Biology department faculty

4. Analyze various modes of disease transmission.
   Assessment 1
   Assessment Tool: Outcome-related questions on unit and/or final exams or other evaluations, such as case studies.
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% of students will answer each question correctly.
   Who will score and analyze the data: Biology department faculty

5. Identify how people limit the spread of infectious agents.

Assessment 1

Assessment Tool: Outcome-related questions on unit and/or final exams or other evaluations, such as case studies.
Assessment Date: Fall 2025
Assessment Cycle: Every Three Years
Course section(s)/other population: All
Number students to be assessed: All
How the assessment will be scored: Departmentally-developed rubric
Standard of success to be used for this assessment: 70% of students will answer each question correctly.
Who will score and analyze the data: Biology department faculty

Course Objectives

1. Recognize major structural differences between prokaryotic and eukaryotic cells.
2. Recognize major structures in viruses.
3. Recognize the chemical make-up of prions.
4. Match important infectious diseases with their etiologic agents.
5. Recognize the skin and mucosa as critical first-line barriers against pathogens.
6. Recognize inflammation, fever, and phagocytes as key internal, innate defenses against pathogens.
7. Recognize antibodies as an adaptive defense against pathogens.
8. Recognize T-lymphocytes as an adaptive defense against pathogens.
9. Identify the appropriate target for antibiotics.
10. State that antibiotics do not affect viruses.
11. Identify ways that inappropriate use of antibiotics can lead to bacterial resistance against these drugs.
12. Identify definitions of contact, fomite, airborne, and food-borne transmission of pathogens.
13. Match the mode of transmission with selected pathogens.
14. Identify definitions of endemic, epidemic, and pandemic diseases.
15. Identify the individual and population benefits and risks of vaccination.
16. Identify the benefits of hand hygiene to health care workers and their patients.
17. Identify characteristics of patients, pathogens, and health care workers that contribute to nosocomial infections.
18. Identify methods of sterilization and disinfection.

New Resources for Course

Course Textbooks/Resources

Textbooks

Englekirk, Paul. *Burton's Microbiology For Health Sciences, Enhanced- with Access*, 11th ed. Jones and Bartlett Publishing, 2019, ISBN: 9781284209952.

Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Emily Thompson Ph.D.	*Faculty Preparer*	*May 04, 2023*
Department Chair/Area Director:		
Susan Dentel	*Recommend Approval*	*May 06, 2023*

Dean:		
Tracy Schwab	*Recommend Approval*	*May 08, 2023*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Jul 24, 2023*
Assessment Committee Chair:		
Jessica Hale	*Recommend Approval*	*Jul 31, 2023*
Vice President for Instruction:		
Victor Vega	*Approve*	*Aug 03, 2023*

Washtenaw Community College Comprehensive Report

BIO 147 Hospital Microbiology
Effective Term: Winter 2020

Course Cover

Division: Math, Science and Engineering Tech
Department: Life Sciences
Discipline: Biology
Course Number: 147
Org Number: 12110
Full Course Title: Hospital Microbiology
Transcript Title: Hospital Microbiology
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission:
Change Information:
Consultation with all departments affected by this course is required.
Rationale: A three year review is due and the course Assessment was just filed. It is therefore appropriate to file a new Master Syllabus.
Proposed Start Semester: Fall 2021
Course Description: In this course, students are introduced to topics in microbiology involving human health and disease. Biological characteristics of bacteria and viruses are described and selected pathogens are discussed. The innate and adaptive defenses of the human body against microbial pathogens are described. The course also discusses appropriate use of antimicrobics. Public health efforts to control pathogens are also discussed, including vaccination and infection control.

Course Credit Hours

Variable hours: No
Credits: 1
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Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

No Level Required

Requisites

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Identify major characteristics of diverse microbes.
   Assessment 1
   Assessment Tool: Item analysis of selected objective questions on unit and/or final exams or other evaluations, such as case studies.
   Assessment Date: Fall 2021
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% or more of the students will correctly answer each question.
   Who will score and analyze the data: Biology department faculty

2. Identify the major innate and adaptive defenses of the human body against microbial pathogens.
   Assessment 1
   Assessment Tool: Item analysis of selected objective questions on unit and/or final exams or other evaluations, such as case studies.
   Assessment Date: Fall 2021
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
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3. Identify the appropriate use of antimicrobics.
   Assessment 1
   Assessment Tool: Item analysis of selected objective questions on unit and/or final exams or other evaluations, such as case studies.
   Assessment Date: Fall 2021
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 70% or more of the students will correctly answer each question.
   Who will score and analyze the data: Biology department faculty

4. Identify various modes of disease transmission.
   Assessment 1
   Assessment Tool: Item analysis of selected objective questions on unit and/or final exams or other evaluations, such as case studies.
   Assessment Date: Fall 2021
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 70% or more of the students will correctly answer each question.
Who will score and analyze the data: Biology department faculty

5. Identify how people limit the spread of infectious agents.

Assessment 1

Assessment Tool: Item analysis of selected objective questions on unit and/or final exams or other evaluations, such as case studies.
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Assessment Cycle: Every Three Years
Course section(s)/other population: All
Number students to be assessed: All
How the assessment will be scored: Departmentally-developed rubric
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Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Emily Thompson Ph.D.	*Faculty Preparer*	*Jun 20, 2019*
Department Chair/Area Director:		

Anne Heise	*Recommend Approval*	*Jun 21, 2019*
Dean:		
Kimberly Jones	*Recommend Approval*	*Jul 02, 2019*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Aug 14, 2019*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Aug 29, 2019*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Sep 04, 2019*