



Microbiology – BIOLOGY (BIOL) 2117
COURSE SYLLABUS
Summer Semester 2019

COURSE INFORMATION

Credit Hours/Minutes: 3/2250

Campus/Class Location: Vidalia Campus/Health Sciences Annex (HSA) – Building C

Class Meets: Wednesday 8:05 – 12:55

Course Reference Number (CRN): 60037

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Erica M. Harrison

Email Address: [Erica Harrison eharrison@southeasterntech.edu](mailto:Erica.Harrison@southeasterntech.edu)

Campus/Office Location: Vidalia/HSA 901

Office Hours: M-W: 1:30pm-4pm; R: 8:00-10:30am

Phone: (912) 538-3188

Fax: (912) 538-3156

Tutoring Hours (if applicable): By appointment only

SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php) (<http://www.southeasterntech.edu/student-affairs/catalog-handbook.php>).

REQUIRED TEXT

Burton's Microbiology for the Health Sciences; 11th Edition; Engelkirk, Engelkirk, Fader: Copyright 2018. Lippincott, Williams, and Wilkins. ISBN# 978-1496380463

Introductory Microbiology-Biology 2117; First Edition; Southeastern Technical College

REQUIRED SUPPLIES & SOFTWARE

Ink pens, highlighter, and any other supplies deemed necessary by the instructor.

Students should not share login credentials with others and should change passwords periodically to maintain security.

COURSE DESCRIPTION

Provides students with a foundation in basic microbiology with emphasis on infectious disease. Topics include microbial diversity, microbial cell biology, microbial genetics, interactions and impact of microorganisms and humans, microorganisms and human disease.

MAJOR COURSE COMPETENCIES

1. Microbial Diversity
2. Microbial Cell Biology
3. Microbial Genetics

4. Interactions and Impact of Microorganisms and Humans
5. Microorganisms and Human Disease

PREREQUISITE(S)

BIOL 2113 and BIOL 2113L OR BIOL 1111 and BIOL 1111L

COREQUISITE(S)

BIOL 2117L

COURSE OUTLINE

Microbial Diversity

1. Explain characterization of organisms, including viruses, bacteria, prions, fungi, and protozoa.
2. Classify organisms.

Microbial Cell Biology

1. Summarize the morphology of bacteria.
2. Explain the fine structure of bacteria.
3. Identify common gram negative and gram positive bacteria.
4. Describe bacteria with unusual properties and complex morphology.
5. Describe bacterial growth.
6. Explain the replication of bacteria.
7. Explain the replication of viruses.
8. Describe the various types of energy production.
9. Understand the metabolic diversity of microbes.

Microbial Genetics

1. Describe the cause, consequences and uses of mutations.
2. Explain genetic transfer and recombination.
3. Identify applications of biotechnology.

Interactions and Impact of Microorganisms and Humans

1. Describe factors that affect the ability of the host to resist infection.
2. Describe host innate or natural defense mechanisms.
3. Discuss innate host defenses that offer resistance to microorganism establishment.
4. Discuss adaptive host defenses that offer resistance to microorganism establishment, including antibody formation, active and passive immunity, and natural and acquired immunity.
5. Differentiate between innate and acquired immunity.
6. Discuss the disorders of the immune system.
7. Discuss principles of epidemiology.
8. Explain portals of entry for pathogenic agents.
9. Describe the evasion mechanisms of the pathogen.
10. Describe the indirect and direct disease transmission methods.
11. Discuss the effects of immunosuppressive drug therapy, concurrent disease, and aging on the host-parasite relationship.
12. Discuss the methods by which various antibiotics and chemotherapeutic agents affect microorganisms.
13. Discuss practical applications of various disinfection and sterilization procedures.
14. Evaluate sterility testing procedures.

Microorganisms and Human Disease

1. Identify the causative agents for the major microbial diseases for each of the following systems: respiratory, digestive, genitourinary, integumentary, cardiovascular, nervous, and lymphatic.
2. Describe the symptoms and treatment for the major microbial diseases for each of the body systems.
3. Discuss the methods of control and prevention of disease.
4. Discuss and describe emerging infectious diseases and their ramifications on human health.

GENERAL EDUCATION CORE COMPETENCIES

Southeastern Technical College has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

STUDENT REQUIREMENTS

Students are responsible for the policies and procedures in the STC E-Catalog. During an examination, students are required to place all textbooks and personal property on the floor or counter located in the back or to the side of the classroom. Students are to be seated with an empty seat between each student. No talking is allowed once the test begins. Students found with cell phone or any other personal communication device (including smart watches) during a test will be considered cheating and given a grade zero. This also applies to students who have completed/submitted test to instructor and using cell phone in classroom while testing is still in progress or others are still testing.

NO EATING/DRINKING IS ALLOWED IN LAB OR CLASSROOMS.

Students are expected to exhibit professional behavior at all times. Each student must show respect and concern for fellow students and for the course instructor. Insubordination will not be tolerated, and disciplinary measures will be enacted. No cell phones or pagers are allowed to be turned on in the classroom. Personal phone calls must be handled after class. Watches with alarms should not be programmed to sound during class.

ATTENDANCE GUIDELINES

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of "F" (Failing 0-59) and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

ADDITIONAL ATTENDANCE PROVISIONS

Health Sciences

Requirements for instructional hours within Health Science and Cosmetology programs reflect the rules of respective licensure boards and/or accrediting agencies. Therefore, these programs have stringent attendance policies. Each program's attendance policy is published in the program's handbook and/or syllabus which specify the number of allowable absences. All provisions for required make-up work in the classroom or clinical experiences are at the discretion of the instructor.

Attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least 90% of the scheduled instructional time. Time and/or work missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before

the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course. **For this class, which meets 1 day a week for 10 weeks, the maximum number of days a student may miss is 1 day during the semester.**

SPECIAL NEEDS

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, to coordinate reasonable accommodations.

SPECIFIC ABSENCES

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

PREGNANCY

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126.

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" (Withdrawn) is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see above for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

Remember - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

EVALUATION PROCEDURES

In order to sit for the final exam, a student must maintain a Lecture Exam Average of 70 or above prior to the date of the scheduled final. Grades of 69.9 will not be rounded up. If the student has below a 70 average, the student will be given a letter grade based on tests average.

Final Examination: A comprehensive final examination will be given at the end of the semester. There will be no make-up exam for the final examination. Failure to take the final examination on the specified date will result in a grade of zero.

MAKEUP GUIDELINES (TESTS, QUIZZES, HOMEWORK, PROJECTS, ETC.)

Lecture examinations: Students will be allowed to make up one lecture examination (excluding the final

exam), due to a documented, excused absence approved by the instructor. Any subsequently missed lecture exam will result in an automatic zero.

Lecture assignments: Late assignments will be accepted but not for full credit. Assignments submitted after the due date will incur a 10% deduction per day late.

ASSIGNMENTS

Students are required to read each chapter and complete Learning Objectives listed at the beginning of each chapter. Learning Objectives should be turned in EACH WEEK in students' personal files in the back of the lecture room.

Good rule of thumb...if we have tested over that chapter in lecture then those chapters' learning objectives are due the following week!

Student files are checked weekly and points will be deducted for any missing assignment.

Group Case Study Presentation: Students will work in small groups (2-5 people/group) and give an educational presentation on a case study provided by the Instructor. A list of topics to choose from along with guidelines for arrangement, content, requirements, and rubric for presentations are provided on STC's Materials (M:) drive. Presentations should be 25-30 minutes long. Please ensure presentations are within time limit. Points will be deducted for exceeding 30 minutes presenting for fewer than 25 minutes. Students are required to include a visual aid. This can be in the form of short video clips, handouts or other materials/media that will enhance the presentation. If video clips are utilized, no more than two video clips are to be used and these not exceed 3-4 minutes each. Points will be deducted for additional video clips and for combined clips that use more than 8 minutes of presentation time.

Group members should have equal participation for this project. The week before presentations, the instructor will ask all group members for feedback on equal participation. Feedback on equal participation includes but is not limited to the following: participating at group meetings during Lecture/Lab or out of class meetings, corresponding or communicating in a timely manner with group members to provide information on assigned portion of project, and providing pertinent information regarding assigned portion of project.

The week before presentations (presentation date indicated on lesson plan), all presentations should be saved on the instructor's computer (please save to the Desktop). Case study presentations account for 10% of the final course grade.

ACADEMIC DISHONESTY POLICY

The Southeastern Technical College Academic Dishonesty Policy states that all forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the Southeastern Technical College Catalog and Handbook.

PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

1. First Offense

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

2. Second Offense

Student is given a grade of "WF" (Withdrawn Failing) for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

3. Third Offense

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into Banner for tracking purposes.

STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia (TCSG) and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member, or citizenship status (except in those special circumstances permitted or mandated by law). This nondiscrimination policy encompasses the operation of all technical college-administered programs, federally financed programs, educational programs and activities involving admissions, scholarships and loans, student life, and athletics. It also applies to the recruitment and employment of personnel and contracting for goods and services.

All work and campus environments shall be free from unlawful forms of discrimination, harassment and retaliation as outlined under Title IX of the Educational Amendments of 1972, Title VI and Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act of 1967, as amended, Executive Order 11246, as amended, the Vietnam Era Veterans Readjustment Act of 1974, as amended, Section 504 of the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990, as amended, the Equal Pay Act, Lilly Ledbetter Fair Pay Act of 2009, the Georgia Fair Employment Act of 1978, as amended, the Immigration Reform and Control Act of 1986, the Genetic Information Nondiscrimination Act of 2008, the Workforce Investment Act of 1998 and other related mandates under TCSG Policy, federal or state statutes. The Technical College System and Technical Colleges shall promote the realization of equal opportunity through a positive continuing program of specific practices designed to ensure the full realization of equal opportunity.

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

| | |
|---|--|
| <p>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</p> | <p>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</p> |
| <p>Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1st Street, Vidalia Office 108 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu</p> | <p>Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3230 Email: Lanie Jonas ljonas@southeasterntech.edu</p> |

ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on Southeastern Technical College's website.

ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

TECHNICAL COLLEGE SYSTEM OF GEORGIA (TCSG) GUARANTEE/WARRANTY STATEMENT

The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.

GRADING POLICY

| Assessment/Assignment | Percentage |
|-------------------------|------------|
| Lecture Exams | 50% |
| Case Study Presentation | 10% |
| Learning Objectives | 10% |
| Final Exam | 30% |

GRADING SCALE

| Letter Grade | Range |
|--------------|--------|
| A | 90-100 |
| B | 80-89 |
| C | 70-79 |
| D | 60-69 |
| F | 0-59 |

DISCLAIMER STATEMENT

Instructor reserves the right to change the syllabus and/or lesson plan as necessary. The official copy of the syllabus is located on the STC M-Drive and will be discussed on the first day of class. The syllabus displayed in advance of the semester in any location is for planning purposes only.

Microbiology – BIOL 2117

Summer Semester 2019 Lesson Plan

| Date | Chapter (Ch) | Content | Assignments & Tests Due Dates | Competency Area |
|-------|---------------------|---|--|-----------------------|
| 05/20 | Lecture Chapter 1-5 | Ch 1: Microbiology – The Science Ch 2: Viewing the Microbial World Ch 3: Cell Structure and Taxonomy Ch 4: Acellular & Prokaryotic Microbes Ch 5: Microbial Diversity | Orientation: Syllabus, Lesson Plans, Rules & Regulations, Review of Lecture Assignments for the semester | CC 1-2 GC 1,3 |
| 5/27 | | Memorial Day Holiday | No class | |
| 6/03 | Lecture Ch 6-8 | Ch 6: Biochemistry: The Chemistry of Life Ch 7: Microbial Physiology and Genetics Ch 8: Controlling Microbial Growth In Vitro Ch 9: Controlling Microbial Growth In Vivo Ch 10: Microbial Ecology and Biotechnology | Lecture Exam 1: Ch 1-5 Learning Objectives (LOs) 1-5 due | CC 1-4 GC 1,3 |
| 06/10 | Lecture Ch 11-15 | Ch 11: Epidemiology and Public Health Ch 12: Healthcare Epidemiology Ch 13: Diagnosing Infectious Disease Ch 14: Pathogenesis of Infectious Disease Ch 15: Nonspecific Host Defense Mechanisms | Lecture Exam 2: Ch 6-10 LOs 6-10 due | CC 1,3, 5-8 GC 1-3 |
| 06/17 | Lecture Ch 16-21 | Ch 16: Specific Host Defense Mechanisms Ch 17: Overview of Infectious Disease Ch 18: Viral Infections Ch 19: Bacterial Infections Ch 20: Fungal Infections Ch 21: Parasitic Infections | Lecture Exam 3: Ch 11-15 LOs 11-15 due | CC 5-8 GC 1-3 |
| 06/24 | | Case Study Presentations | Lecture Exam 4: Ch 16-21 LOs 16-21 due | CC 4-5 GC 1,3 |
| 07/01 | | Fourth of July Holiday | No class | CC 1-5 GC 1-3 |
| 07/08 | | Lecture Exam Make-Up Day Student file check off Final Exam Review Students without a make-up exam, please report to class at 9:05 for notebook checkoff | | CC 1-5 GC 1-3 |
| 07/15 | | Dental Students Report to Dr. Gramiak for Dental Checkoffs | | CC 1-5 GC 1-3 |
| 07/22 | Ch 1-21 | Lecture Final Exam | Comprehensive Final | CC 1-5 GC 1-3 |

COMPETENCY AREAS:

1. Microbial Diversity
2. Microbial Cell Diversity
3. Microbial Genetics
4. Interactions and Impact of Microorganisms and Humans
5. Microorganisms and Human Disease

GENERAL CORE EDUCATIONAL COMPETENCIES:

- a) The ability to utilize standard written English.
- b) The ability to solve practical mathematical problems.
- c) The ability to read, analyze, and interpret information.

Case Study Presentation Evaluation

PRESENTATION TOPIC:

GROUP MEMBERS:

CASE STUDY PRESENTATION RUBRIC

Students must adhere to rubric to outline presentation

| Section/Points Possible | Criteria | Comments | Points Earned |
|--|---|----------------------|---------------|
| Introduction/Background 20 points possible | The presenter(s) introduced the case by providing: an introduction to the case, past dental history, background and health history of the patient. | | |
| Diagnosis and Treatment 20 points possible | The presenter(s) provided adequate information on their patient's disease or disorder which includes but is not limited to: symptoms, diagnosis, treatment methods/plans, assessment and dental hygiene educational intervention. | | |
| Ongoing Research 20 points possible | The presenter(s) adequately summarized the outcomes that should result from assessment, discussed current efforts to improve treatment (education, prevention, and self-care practices). | | |
| Group Participation 20 points possible | All group members had equal participation which includes but is not limited to: in and out of class meeting attendance, timely correspondence and communication, and provision of pertinent information on assigned portions of project. | | |
| Overall Presentation Quality 20 points possible | The preparation, delivery, use of visual aids and video clips were classroom appropriate, interesting, and informative. The presentation met the time limits for the assignment. Students followed instructions for the organization of the presentation. Multiple choice questions were discussed, answered and conducted as a question-answer session after the presentation. | | |
| | | Total Points: | |