



Microbiology LECTURE – BIOLOGY (BIOL) 2117
COURSE SYLLABUS
HYBRID
Summer Semester 2022

COURSE INFORMATION

Credit Hours/Minutes: 3/2250

Campus/Class Location: Vidalia Campus/Health Sciences Annex (HSA) – Building C: Room 902

Class Meets: Mondays 8:05am-11:35 (**Hybrid format**: 60% face to face in class & 40% online).

Course Reference Number (CRN): 60182

Preferred Method of Contact: Email Sherry Sturgis (ssurgis@southeasterntech.edu)

CONTACT INFORMATION

Instructor Name: Sherry Sturgis

Email Address: Sherry Sturgis (ssurgis@southeasterntech.edu)

Campus/Office Location: Vidalia Campus/HSA – Building C: Room 901

Office Hours: By appointment

Phone: (912) 538-3188

Tutoring Hours: By appointment

This course is taught in a hybrid format. Hybrid classes require students to complete a portion of the required contact hours traditionally by attending classes on campus while completing the remaining portion online at the student's convenience with respect to the instructor's requirements.

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

1. Burton's Microbiology for the Health Sciences; Tenth Edition 1-2842-4253-6; Engelkirk and Burton: Copyright 2011.
2. Introductory to Microbiology 2117 Lab Workbook – First Edition (available in bookstore only)

REQUIRED SUPPLIES & SOFTWARE

Reliable internet access, laptop with functional camera/webcam (bring laptop **with charger** to all lecture & lab meetings), ink pens, highlighters, and any other supplies deemed necessary by the instructor.

Note: Although students can access their online course using their smart phones and tablets, **graded activities** such as **exams, discussions, assignments, etc. should be performed on a personal computer.**

Neither Blackboard nor Georgia Virtual Technical Connection (GVTC) provide technical support for issues relating to the use of a smart phone or tablet, so students are advised not to rely on these devices to take an online course.

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 Southeastern Technical College's (STC's) Catalog and Handbook. Students are expected to prove weekly academic engagement by meeting assignment deadlines each week and spending a minimum of 2 hours per day during the semester doing the required homework, assignments, and assessments. Students are expected to complete all work required by the instructor and follow online testing instructions and guidelines.

STC Email: Students are expected to communicate frequently through STC email. The instructor will utilize **ONLY STC email** for correspondence and share pertinent information to enable successful completion of the course.

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.

COVID-19 MASK REQUIREMENT

Regardless of vaccination status, students are highly encouraged to wear masks or face coverings while in a classroom or lab at Southeastern Technical College. Masking may be implemented in some program areas (i.e. Health Sciences and Cosmetology) where students, faculty, and clients are in close proximity and social distancing cannot be maintained. This measure is being implemented to reduce COVID-19 related health risks for everyone engaged in the educational process. Masks or face coverings must be worn over the nose and mouth, in accordance with the Centers for Disease Control and Prevention (CDC).

COVID-19 SIGNS AND SYMPTOMS

We encourage individuals to monitor for the signs and symptoms of COVID-19 prior to coming on campus. If you have experienced the **symptoms listed below** or have a **body temperature 100.4°F or higher**, we encourage you to self-quarantine at home and contact a primary care physician's office, local urgent care

facility, or health department for further direction. **Please notify your instructor(s) by email and do not come on campus for any reason.**

COVID-19 Key Symptoms
Fever or felt feverish
Chills
Shortness of breath or difficulty breathing (not attributed to any other health condition)
Fatigue
Muscle or body aches
Headache
New loss of taste or smell
Sore throat (not attributed to any other health condition)
Congestion or runny nose (not attributed to any other health condition)
Nausea or vomiting
Diarrhea
In the past 14 days, if you:
Have had close contact with or are caring for an individual diagnosed with COVID-19 at home (not in healthcare setting), please do not come on campus and contact your instructor (s).

COVID-19 SELF-REPORTING REQUIREMENT

Students taking classes on campus, who test positive for COVID-19 or who have been exposed to a COVID-19 positive person, are required to self-report using the [COVID 19 Health Reporting Form](#). Report all positive cases of COVID-19 to your instructor and [Stephannie Waters](#), Exposure Control Coordinator, swaters@southeasterntech.edu, 912-538-3195.

HYBRID ATTENDANCE

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.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an "F" in a course.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact the appropriate campus coordinator to request services.

Swainsboro Campus: [Daphne Scott \(dscott@southeasterntech.edu\)](mailto:dscott@southeasterntech.edu) 478-289-2274, Building 1, Room 1210.

Vidalia Campus: [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165.

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 make arrangements with the appropriate campus coordinator.

Swainsboro Campus: [Daphne Scott \(dscott@southeasterntech.edu\)](mailto:dscott@southeasterntech.edu) 478-289-2274, Building 1, Room 1210.

Vidalia Campus: [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165.

It is strongly encouraged that requests for consideration be made **PRIOR** to delivery and early enough in the pregnancy to ensure that all the required documentation is secured before the absence occurs. Requests made after delivery MAY NOT be accommodated. The coordinator will contact your instructor to discuss accommodations when all required documentation has been received. The instructor will then discuss a plan with you to make up missed assignments.

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% point of the term in which student is enrolled (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 for the course(s) when the student completes the withdrawal form.

Important – Student-initiated withdrawals are not allowed after the 65% point. After the 65% point of the term in which the student is enrolled, the student has earned the right to a letter grade and will receive a grade for the course. Please note: Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" (Failing 0-59) being assigned.

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

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 also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. A grade 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 or her course does not satisfy the approved withdrawal procedure outlined above.

FINAL EXAMINATION/FINALS ELIGIBILITY

A comprehensive final examination will be given at the end of the semester. All students in the course will complete the Final Exam on the specified date and time as stipulated in the Lesson Plan outline. The Final

Exam will be timed. There will be **no make-up exam** for the Final Examination. In order to be eligible to take the final exam, a student must maintain a **Lecture and Lab Test average of seventy percent (70%) or above prior to the date of the scheduled final exam.** 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. Assignments, lab projects, Blackboard assignments etc. are **not** included in tests averages, **only tests grades.** There will be no drop grade for this class.

MAKEUP GUIDELINES FOR MISSED EXAM

Students will be allowed to make-up **one** examination, **EXCLUDING** the final examination, due to an extenuating circumstance. This should be discussed with the instructor. Please submit official copy of medical, court documentation/jury duty, or any other formal written documents supporting the reason for missing a test. It is a good idea to also send a copy by email. **Any other test missed will result in an automatic grade of zero.** If Internet or browser failure occurs while testing, contact instructor immediately via phone (leave a message if necessary) and email later after internet connection is resolved. A decision will be made at that time if the assignment/test will be reset. **Note:** If student notifies instructor regarding inability to complete assignments/tests because of technical problems **after due date**, the student will **NOT** be allowed to make-up assignments/tests.

EVALUATION PROCEDURES

In order to sit for the final exam in this course a student must maintain a Lecture Exam average of 70.0 or above prior to the date of the scheduled final exam. Exam averages of 69.9 *will not* be rounded up. If a student has below a 70.0 average, the student will be given a letter grade based on the exam average. There will be no drop grade for lecture exams.

GROUP CASE STUDY PRESENTATION:

Dental Students will be placed in groups to work on Case Studies pertaining to Dental Program and Health Science/Nursing student will be placed in groups to work on Case Studies pertaining to Health Science. Students will work in small groups (2-5 people/group) and give an educational presentation to the class on a case study provided by the Instructor. Presentations should be 15-20 minutes long. Please ensure presentations are within time limit. Points will be deducted for exceeding 20 minutes or presenting for fewer than 15 minutes. Students are required to include a visual aid. This can be in the form of short video clips. If video clips are utilized, no more than two video clips are to be used and these are not to 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, 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.

Group Case Study presentations will not be accepted late. No exceptions.

Dental Hygiene Skill Evaluations (see Lab syllabus and Lesson Plan for details)

Attendance is mandatory for the following laboratory sessions: **June 13, June 20, and June 27.** Three skill evaluations will be completed: Midmark M-11, Statim, and Ultrasonic Cleaner. Students must achieve 100% on each skill evaluation. Students will be allowed two attempts to reach 100% competency. If 100% competency level is not achieved on the first attempt, a remediation plan will be assigned. The remediation plan must be completed prior to the second/final attempt of the skill. The remediation plan will be based on feedback from the instructor and student. The remediation plan will contain the skill deficiencies and the instructions for completion of the remediation.

The student will begin with a 30-point deduction if a second/final attempt is necessary. The following list of attempts illustrates the grade that will be issued for the first and second/final attempts.

First Attempt = 100 is the grade for 100% competency

Second/Final Attempt = 70 is the grade for 100% competency

If a student fails to achieve 100% on the skill evaluation at the end of the second/final attempt, the student will be assigned a grade of "0" (zero) for the skill evaluation. The student will also be assigned an "F" for the final course grade, and the student will not be allowed to proceed in the dental hygiene program. [PLEASE DOWNLOAD FORMS FROM M. DRIVE TO TAKE WITH YOU ON SKILL EVALUATION DAYS.](#)

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" (zero) for the test or assignment. Instructor keeps a record in course or 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 Web 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" (withdrawn Failing) has been issued as a result of second offense. The Registrar will input the incident into Banner Web for tracking purposes.

3. Third Offense

Student is given a grade of "WF" (Withdrawn Failing) 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" (Withdrawn Failing) 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@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@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, Assignments, & Discussion Board	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 – LECTURE
Summer Semester 2022 Lesson Plan
 Subject to change at instructor's discretion.

Date	Chapter/Lesson	Assignments, Home Work & Tests Due Dates	Competency Area
05/16	Ch 1: Microbiology – The Science Ch 2: Viewing the Microbial World Ch 3: Cell Structure and Taxonomy	<ul style="list-style-type: none"> • Learning Objectives (LOs) 1-3. Due 5-23 • Distribution of Case Study Presentations Dental Hygiene and Nursing <p>Hybrid-Discussion Board-Students must answer the questions posted weekly on the discussion board by the instructor.</p>	CC 1-4 GC 1-3
5/23	Ch 4 & 5: Microbial Diversity: Part 1/2 Ch 6: The Biochemical Basis of Life Ch 7: Microbial Physiology and Genetics	<ul style="list-style-type: none"> • Learning Objectives (LOs) 4-6. Due 6-6 • Work on Case Study Presentation 	CC 1-4 GC 1-3
5/30	Memorial Day Holiday	No Class	
06/6	Lecture Exam 1: Ch 1-5 Ch 8: Controlling Microbial Growth In Vitro Ch 9: Inhibiting the Growth of Pathogens Ch 10: Microbial Ecology and Biotechnology	Lecture Exam 1: Ch 1-5 <ul style="list-style-type: none"> • Learning Objectives (LOs) 7-9. Due 6-13 • Work on Case Study Presentation 	CC 1-5 GC 1-3
06/13	Ch 11: Epidemiology and Public Health Ch 12: Healthcare Epidemiology Ch 13: Diagnosing Infectious Disease	<ul style="list-style-type: none"> • Learning Objectives (LOs) 10-12. Due 6-20 • Work on Case Study Presentation 	CC 1-5 GC 1-3
06/20	Ch 14: Pathogenesis of Infectious Disease Ch 15: Nonspecific Host Defense Ch 16: Specific Host Defense Mechanisms	Lecture Exam 2: Ch 6-10 <ul style="list-style-type: none"> • Learning Objectives (LOs) 13-15. Due 6-27 • Work on Case Study Presentation 	CC 1-5 GC 1-3
06/27	Ch 17: Overview of Infectious Disease Ch 18: Viral Infections Ch 19: Bacterial Infections	Lecture Exam 3: Ch 11-15 <ul style="list-style-type: none"> • Learning Objectives (LOs) 16-17. Due 7-12 • Case Study Presentation should be completed 	CC 1-5 GC 1-3
07/04	Fourth of July Holiday	No class	
07/11	Ch 20: Fungal Infections Ch 21: Parasitic Infections	<ul style="list-style-type: none"> • Learning Objectives (LOs) 19-21. Due 7-18 • Review with group – Case Study Presentation 	CC 1-5 GC 1-3
07/18	Case Study Presentations: DAY 1 Dental Hygiene groups and Nursing groups.	Lecture Exam 3: Ch 16-20 See rubric guidelines and Lesson Plan for details and grading policy on Case Study Presentation.	CC 1-5 GC 1-3
07/25	FINAL EXAMS – ALL CHAPTERS Case Study Presentations -DAY 2 Lecture Exam Make-Up Day	FINAL EXAMS CHAPTERS 1-21, (Includes Ch 21). See syllabus for make-up exam criteria	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.

