



MICB 2191L FUNDAMENTAL MICROBIOLOGY LAB MASTER COURSE SYLLABUS

Instructors will provide students with additional course-specific information, including attendance/makeup policies, assignment/test scheduling, and instructor contact information, as necessary and appropriate.

Prerequisite(s):	BIOL 1111, CHEM 1211, 1211L
Co-requisite(s):	MICB 2191
Term(s) Offered:	Spring and Summer
Class Hours:	0
Lab Hours:	6
Credit Hours:	2

Course Description

Selected laboratory exercises parallel the topics presented in MBIO 2191. Students gain laboratory proficiency in methods used in modern microbiology, focusing on aseptic media preparation and culture techniques for different microbes, microscopy, microbial isolation and identification. Further exercises include genetic techniques including bacterial transformation and plaque assay as well as microbial food and environmental laboratories.

Course Competencies and Student Learning Outcomes

Laboratory safety

Order	Description
1	Discuss and apply laboratory safety precautions to all aspects of laboratory experimentation.

Fundamental microbial skills, microscopy and staining

Order	Description
1	Perform bacterial staining methods and microscopy.
2	Perform basic pipetting exercises.
3	Perform aseptic techniques, use steam autoclave.
4	Use analytical and top loader laboratory balances.
5	Prepare selected liquid and solid bacterial media.
6	Perform spectroscopy and centrifugation.

Isolation, cultivation and growth of microbes

Order	Description
1	Perform pure bacterial cultures and streak plates.
2	Demonstrate ability to inoculate and maintain cultures.
3	Demonstrate ability to store cultures.
4	Demonstrate ability to dilute and enumerate cultures.
5	Generate a bacterial growth curve.

Genetic techniques

Order	Description
1	Perform a bacterial transformation including selection
2	Perform a plaque assay.

Microbial food production and contamination

Order	Description
1	Perform microbial vinegar production.
2	Recognize microbial contaminants in food.

Bacterial examination of environmental water samples

Order	Description
1	Examine coliforms in environmental water samples using membrane filtration.
2	Examine coliforms in environmental water samples using colorimetric reagents.

Required Textbook(s) and Materials

Students enrolled in this course are obligated to have the following:

Principles of Modern Microbiology by Mark Wheelis, 2008, Jones & Bartlett Publishers, ISBN-13: 978-0-7637-1075-0.

Laboratory Notebook: Scientific Notebook Company #1301 required

Scientific calculator

Lab coat

Safety glasses

Grading Scale

The grading scale is detailed in the *Catalog and Student Handbook* and listed below for reference. All faculty members follow this scale when assigning grades to reflect a given student's performance in the classroom.

Grade	Numerical Equivalent	Grade Point
A/A*	90-100	4
B/B*	80-89	3
C/C*	70-79	2
D/D*	60-69	1
F/F*	0-59	0

Effective Summer Quarter 2006, Athens Technical College replaced the S/U grading system used for learning support classes with an A*-F* grading system. The registrar uses an asterisk (A*, B*, C*, D*, F*, W*, WF*, WP*) to designate learning support course grades on transcripts and grade reports because these grades are not components of the term grade point average.

Academic Support Center:

The Academic Support Centers of Athens Technical College (ATC) provide free tutoring for enrolled students. Both instructors and peer tutors provide tutoring in almost all subjects offered by the college. Information about the Center is accessible via the ATC website at <http://www.athenstech.edu/StudentDevelopmentServices/AcademicSupportCenter>. To find out the specific services available on the Athens, Greene, and Walton Campuses, please call (706) 583-2839. To contact the Academic Support Center on the Elbert County Campus, please call (706) 213-2129.

Attendance

Regular class attendance is important and expected. The college considers both tardiness and early departure from class as forms of absenteeism. Students absent from class for any reason are still responsible for all work missed. Instructors have the right to determine whether work missed can be made up and have the liberty to set reasonable expectations for attendance based on frequency of class meetings and on the instructional delivery method, subject, type, and level of the class. Class attendance policies will be clearly stated for students by their respective instructors on separate documents (course outlines/schedules) or appendices to the master syllabus.

Course Withdrawal

Students may withdraw from a course without academic penalty until the midpoint of the term. Students withdrawing after the midpoint of the term receive grades of WP – Withdrawal Passing, or WF – Withdrawal Failing. Students who stop attending class(es) without formally withdrawing risk earning a final grade of F, which will appear on the academic transcript. Withdrawing from a course may impact financial aid status, academic standing, and GPA. Refer to the *ATC Catalog and Student Handbook* for further details: <http://www.athenstech.edu/Catalog/>

Course Technology

Course addendum will provide details concerning the use of technology in the course. Course schedule types include **web-enhanced** – taught face-to-face; **online** – taught online using the internet, may require proctored exam; **hybrid** – class time is split between face-to-face and online; **video conference** – taught at two or more campus locations simultaneously with instructor located at one of the classroom locations. More details are available on the Athens Technical College website: <http://www.athenstech.edu/eLearning/CourseList.cfm>

Continuation of Instruction

In the event of severe weather or other emergency, students will be expected to continue participating in learning activities via ANGEL, Athens Technical College email, or other modality. Instructors will provide a plan for the continuation of instruction.

Work Ethics:

To fulfill the responsibility to teach essential workplace ethics, the college provides students instruction in, and evaluates students on, the following ten work ethics traits: attendance, character, teamwork, appearance, attitude, productivity, organizational skills, communication, cooperation, and respect. To best equip students for successful workplace experiences in their chosen profession, instruction and evaluation takes place in the context of their program of study.

Academic Honesty

Academic honesty is expected at all times. Any student found to have engaged in academic misconduct such as cheating, plagiarism, or collusion is subject to disciplinary sanctions as outlined in the Student Code of Conduct detailed in the *ATC Catalog and Student Handbook*. See the following link for the complete Academic Honesty policy:

<http://www.athenstech.edu/StudentAffairs/AcademicHonesty/Academic%20Honesty.pdf>

Students are also advised to complete the tutorial on Academic Honesty available here:

<http://www.athenstech.edu/StudentAffairs/AcademicHonesty>

Americans with Disabilities Act

It is our goal at Athens Technical College to provide equal access to education for all students. Any student with a documented disability is eligible to receive reasonable academic adjustments and auxiliary aids in the classroom and/or for testing at Athens Technical College, as long as appropriate documentation of the disability has been submitted to the Disability Services Office in a timely manner. Students can access the application packet on our website:

http://www.athenstech.edu/CurrentStudents/orientation/files/disability_services_application.pdf

Cell Phones and Electronic Devices

Cell phone use in the classroom for non-instructional purposes, with the exception of receiving emergency notifications, is prohibited.

Food/Drinks in Classroom

Food and beverages (other than water) are not allowed in classrooms/labs.

Communication with ATC Faculty and Staff

Students, faculty, and staff must use Athens Technical College email and ANGEL accounts for all college-related communications. Students are obligated to check their email and ANGEL accounts on a regular basis, preferably daily.

Warranty of Graduates

The Technical College System of Georgia warrants every graduate of technical programs in which students may earn technical certificates of credit, diplomas, or associate degrees. The warranty guarantees that graduates demonstrate the knowledge and skills and can perform each competency as identified in the industry-validated standards established for every program of study. If one of our graduates educated under a standard program or his/her employer finds that the graduate is deficient in one or more competencies as defined in the course/program standards, Athens Technical College will retrain the employee at no instructional cost to the employee or the employer. This guarantee is in effect for two years after graduation.

TEACH Act

According to the TEACH Act of 2002, Athens Technical College is obligated to advise you that instructional material included in this course may be subject to copyright protection. As such, you must not share, duplicate, transmit, or store the material of this course beyond the purpose and time frame explicitly stated in the syllabus of your course. If you are not certain whether a particular piece of material is covered by copyright protection, you should contact your instructor and obtain his/her written clarification. Failing to observe copyright protection is a violation of law.