BIOL 1111
BIOLOGY I

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):	Associate degree-level program admission
Co-requisite(s):	BIOL 1111L
Term(s) Offered:	Fall, Spring, and Summer
Class Hours:	3
Lab Hours:	0
Credit Hours:	3

Course Description

This course provides an introduction to basic biological concepts with a focus on living cells. Topics include chemical principles related to cells, cell structure and function, energy and metabolism, cell division, protein synthesis, genetics, and biotechnology.

Course Competencies and Student Learning Outcomes

Chemical Principles Related to Cells

Order	Description
1	Determine basic atomic structure.
2	Describe types of molecular bonds.
3	Identify the properties of water that make it essential for living organisms.
4	Explain chemical concepts as applied to cellular function.
5	Describe the structure and properties of common organic molecules in living systems.

Cell Structure and Function

Order	Description
1	Describe the structure and function of cell membranes.
2	Explain the passage of molecules across the cell membrane.
3	Describe the nature of the cytoplasm.
4	Explain the structure and function of cellular organelles.
5	Describe the structure and function of the nucleus and its component structures.

Energy and Metabolism

Order	Description
1	Describe the principles that affect energy transformation at the cellular level.
2	Describe the function of enzymes in biological systems.

3	Compare the processes of glycolysis respiration, and fermentation.
4	Describe photosynthesis.

Cell Division

Order	Description
1	Describe the process of replication.
2	Discuss the cell cycle and the process of mitosis.
3	Discuss the process of meiosis.

Protein Synthesis

Order	Description
1	Describe the process of transcription.
2	Describe the process of translation.
3	Describe the characteristic features of the genetic code.
4	Describe different mutations and potential consequences.

Genetics

Order	Description
1	Relate the structure of DNA and RNA to the laws of heredity.
2	Explain the relationship between DNA, RNA, and protein synthesis.
3	Interpret the Mendelian laws of heredity.
4	Determine the probability of specific genotypes and phenotypes as a result of monohybrid and dihybrid crosses.
5	Describe selected genetic diseases of humans.

Biotechnology

Order	Description
1	Describe uses of DNA technology.

Required Textbook(s) and Materials

Biology: a guide to the natural world, D. Krogh, 5th edition, Pearson/Benjamin Cummings, 2011, ISBN-13: 978-0-321-61655-5, ISBN-10: 0-321-61655-3

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 warranties 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.