



**Georgian College
Academic and Career Preparation Program**

ACE Biology, AACE 1007

Course Description

Students develop knowledge of biology as it applies to health, social and environmental issues. Students analyze problems, perform laboratory exercises and communicate scientific information effectively. Students develop skills necessary for post-secondary programs, such as health sciences and environmental studies.

Learning Outcomes

Upon successful completion of this course the student will have reliably demonstrated the ability to:

1. apply foundational concepts and principles of biology;
2. use appropriate numeric, symbolic, graphical and linguistic modes of representation to communicate scientific ideas, plans and experimental results;
3. practice observational, analytical, and critical thinking skills in class and labs;
4. use appropriate safety procedures and guidelines required in laboratories, workplaces and colleges.

Course Materials, Content, and Evaluation

The primary textbook for Biology, *Biology 2e*, is an open educational resource (OER) and is provided at no cost to students. You will also find the course content, assignments, quizzes, etc. on Blackboard, the college's learning management system (LMS). Course modules are listed in the chart on the next page.

The passing grade for this course is 50%, and ALL modules must be completed to receive a final mark. Please note that students who are pursuing post-secondary programs are responsible to find out the prerequisite(s) needed for acceptance, including any required grades. Admission requirements can change from one year to another, so it is important to make sure you have the most up to date information.

Course Modules

MODULES	ESTIMATED HOURS	ASSESSMENT TYPE	WEIGHT
Unit 1 Chemistry of Life			
The Study of Life		Quiz/Test	5%
The Chemical Foundation of Life		Quiz/Test	
Biological Macromolecules		Quiz/Test	
Unit 2 Cell Biology			
Cell Structure		Quiz/Test	11%
Structure and Function of Plasma Membranes		Quiz/Test	
Metabolism		Quiz/Test	
Cellular Respiration		Quiz/Test	
Photosynthesis		Quiz/Test	
Cell Reproduction		Quiz/Test	
Meiosis and Sexual Reproduction		Quiz/Test	
Mendel's Experiments and Heredity		Quiz/Test	
Unit 3 Microbiology			
Viruses		Quiz/Test	11%
Prokaryotes: Bacteria and Archaea		Quiz/Test	
Protists		Quiz/Test	
Fungi		Quiz/Test	
Unit 4 Human Anatomy and Physiology			
The Animal Body: Basic Form and Function		Quiz/Test	22%
Animal Nutrition and the Digestive System		Quiz/Test	
The Nervous System		Quiz/Test	
The Endocrine System		Quiz/Test	
The Musculoskeletal System		Quiz/Test	
The Respiratory System		Quiz/Test	
The Circulatory System		Quiz/Test	
Osmotic Regulation and Excretion		Quiz/Test	
The Immune System		Quiz/Test	
Animal Reproduction and Development		Quiz/Test	
Unit 5 Plant Structure and Physiology			
Plant Form and Physiology		Quiz/Test	11% OR
Soil and Plant Nutrition		Quiz/Test	
Plant Reproduction		Quiz/Test	
Unit 6 Environmental Science			
Ecology and the Biosphere		Quiz/Test	11%
Population and Community Ecology		Quiz/Test	
Ecosystems		Quiz/Test	
Experiments		5-7 Experiments	25%
Assignments		2-5 Assignments	15%
TOTALS	84	Tests 60% Experiments 25% Labs 15%	100%