

BIOL 2601 - General Biology 1: Molecules and Cells

Fall 2026 Syllabus, Section 01, CRN 40012,

Credit hours: 3

Instructor

Reza Alaeddini

Email: ralaeddini@ysu.edu

Public Instructor Information

Instructor Title: Assistant Professor of Forensic Science

Instructor Professional Qualifications: PhD, Chemical and Biomolecular Engineering, University of Sydney, Australia, 2010

Instructor Office Location: Ward Beecher Hall 3041

Instructor Office Phone: (330) 941-3572

Course Description

2601. General Biology 1: Molecules and Cells. The chemical and physical foundations of life, structure and function of cells and organelles, metabolism, basic molecular biology and inheritance, and principles of evolution. Three hours of lecture per week. Coreq.: BIOL 2601L. Prereq. or Coreq.: CHEM 1515. 3 s.h.

Course Readings

Group	Title	Author	ISBN
Required	Biology, 2025 Release	Robert Brooker	978-1264637133

Required Textbook:

Biology, 2025 Release, by Robert Brooker. Published by McGraw-Hill Education.

This textbook provides a comprehensive introduction to modern biology, emphasizing molecular and cellular biology, genetics, evolution, and ecology. It is used digitally alongside McGraw-Hill Connect, an integrated learning platform offering assignments, tutorials, and assessments aligned with the textbook content. Students must register for Connect using the access code bundled with the textbook or by purchasing access separately online. All weekly assignments and quizzes are delivered via Connect.

Recommended Reading:

Additional articles and resources will be posted on Blackboard throughout the semester to supplement lecture topics and current research developments.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	Syllabus Chapter 1	Course Introduction An introduction to Biology	Review Syllabus Review Chapter 1
8/31	Chapter 2	Atoms and Molecules	Complete Syllabus Acknowledgement Complete Orientation Videos Review Chapter 2 Chapter 1 SmartBook and Quiz due
9/7	Chapter 3	Organic Molecules	Review Chapter 3 Chapter 2 SmartBook and Quiz due

9/14	Review Chapters 1,2,3 Exam 1, Chapters 1,2,3 Chapter 4	Review Chapters 1,2,3 Exam 1, Chapters, 1,2,3 General Features of Cells	Review Chapters 1,2,3 Exam 1, Chapters, 1,2,3 Review Chapter 4 Chapter 3 SmartBook and Quiz due
9/21	Chapter 4 Chapter 5	General Features of Cells Membranes	Review Chapter 4 Chapter 3 SmartBook and Quiz due Review Chapter 5
9/28	Chapter 5 Chapter 6	Membranes Enzymes	Review Chapter 5 Chapter 4 SmartBook and Quiz due Review Chapter 6
10/5	Chapter 6 Chapter 7	Enzymes Respiration	Review Chapter 6 Chapter 5 SmartBook and Quiz due Review Chapter 7
10/12	Chapter 7 Review Chapters 4,5,6,7 Exam 2, Chapters 4,5,6,7	Respiration Review Chapters 4,5,6,7 Exam 2, Chapters 4,5,6,7	Review Chapter 7 Review Chapters 4,5,6,7 Exam 2, Chapters 4,5,6,7 Chapter 6 SmartBook and Quiz due
10/19	Chapter 8	Photosynthesis	Review Chapter 8 Chapter 7 SmartBook and Quiz due
10/26	Chapter 9	Chromosomes, Mitosis, Meiosis	Review Chapter 9 Chapter 8 SmartBook and Quiz due
11/2	Chapter 10	Simple Patterns of Inheritance	Review Chapter 10 Chapter 9 SmartBook and Quiz due
11/9	Chapter 11	Nucleic Acids	Review Chapter 11 Chapter 10 SmartBook and Quiz due
11/16	Review Chapters 8,9,10,11 Exam 3, Chapters 8,9,10,11 Chapter 12	Review Chapters 8,9,10,11 Exam 3, Chapters 8,9,10,11 Gene Expression	Review Chapters 8,9,10,11 Exam3, Chapters 8,9,10,11 Chapter 11 SmartBook and Quiz due Review Chapter 12 Chapter 11 SmartBook and Quiz due
11/23	Chapter 12 Chapter 14	Gene Expression Gene Regulation	Review Chapter 12 Review Chapter 14
11/30	Chapter 15 Chapter 19	Mutations and Cancer Genetics of Bacteria, Viruses	Review Chapter 15 Review Chapter 19 Chapter 12 SmartBook and Quiz due Chapter 14 SmartBook and Quiz due Review Chapters 12,14,15,19
12/7	Exam 4 - The exam will cover all chapters taught after Exam 3	Wednesday, December 9, from 8:00 to 10:00 AM	The exam will cover all chapters taught after Exam 3

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.