JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Principles of Cell and Molecular Biology Lecture

Course Abbreviation and Number: BIO 1571 **Credit Hours:** 3 **Course Type:** Lecture

Course Description: This introductory course explores the fundamental principles of cell and molecular biology. Topics include the chemical foundations of life, cell structure and function, cellular metabolism, photosynthesis, cellular respiration, cellular reproduction, and classical human and molecular genetics. Students will gain an appreciation for the complexity of cellular systems and the molecular mechanisms that underlie life processes. This course is designed for science majors as a gateway to more advanced coursework in biology and related disciplines but also serves non-science majors as a general education course.

Eligibility: ENG 1510 without supports or Corequisite: ENG 1510 with supports; Pre/Corequisite: High School Chemistry or CHE 1500 (or higher); Corequisite: MAT0550 or Eligibility: MAT 1590; Corequisite: BIO 1572

General Education Requirements Met

SUNY	JCC
Natural Sciences	Scientific Reasoning
	Applied Learning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Students will identify, understand, and interpret fundamental biological principles such as the chemical foundations of life, cell structure and function, cellular metabolism, photosynthesis, cellular respiration, cellular reproduction, and classical human and molecular genetics. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences]
2. Application of scientific data, concepts, and models in one of the natural sciences. [SUNY Gen Ed – Natural Sciences SLO 2]

Topics Covered:

- Exploring Life
- The Chemical Basis of Life
- The Molecules of Cells
- A Tour of the Cell
- The Working Cell
- How Cells Harvest Chemical Energy
- Photosynthesis: Using Light to Make Food
- The Cellular Basis of Reproduction and Inheritance
- Patterns of Inheritance
- Molecular Biology of the Gene
- How Genes are Controlled
- DNA Technology and Genomics

Information for Students

- Expectations of Students
  - Civility Statement
  - Student Responsibility Statement
  - Academic Integrity Statement
- Accessibility Services
  Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- Get Help: JCC & Community Resources

- Emergency Closing Procedures
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0

- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Fall 2026