JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Principles of Cell and Molecular Biology Lab

Course Abbreviation and Number: BIO 1572 **Credit Hours:** 1 **Course Type:** Lab

Course Description: This lab course explores the fundamental principles of cell and molecular biology. Lab experiences include the chemical foundations of life, cell structure and function, cellular metabolism, photosynthesis, cellular respiration, cellular reproduction, and classical human and molecular genetics. Emphasis is placed on the scientific method, experimentation, and current research techniques used in molecular biology. 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 1571

General Education Requirements Met

SUNY	JCC
Natural Sciences	Scientific Reasoning
	Applied Learning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Demonstrate an understanding of the methods scientists use to explore natural phenomena, including observation, hypotheses development, measurement and data collection, experimentation, evaluation of evidence, and employment of data analysis or mathematical modeling. [SUNY Gen Ed – Natural Sciences SLO 1]
2. Apply principles from topics covered in the lecture portion of the course via scientific experimentation. [JCC Gen Ed – Applied Learning SLO 1]
3. Thoughtfully reflect on connections between concepts studies in the classroom and insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning SLO 2]
4. Recognize the importance of ethical behavior in fostering a community of mutual respect and dignity. [JCC – Values and Ethics]

Topics Covered:

- Scientific Method
- Lab Techniques
- Microscopy
- Research skills
- Cell Membranes
- Lab Project
- Photosynthesis/Respiration
- Mitosis/Meiosis
- DNA Extraction
- PCR
- Electrophoresis

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