

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Genetics Lab

Course Abbreviation and Number: BIO 2562 **Credit Hours:** 1

Course Type: Lab

Course Description: This laboratory course explores the fundamental skills necessary to study genetics, including, but not limited to: Mendelian genetics (drosophila), DNA extraction, bacterial and yeast transformation, polymerase chain reaction, gene knockout (yeast), and proper lab notebook keeping.

Prerequisite: ENG 1510 and BIO1571+1572; Prerequisite/Corequisite: CHE 1551+1552 or higher; Corequisite: BIO2561.

General Education Requirements Met:

SUNY
Natural Sciences

JCC
Scientific Reasoning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Develop Laboratory Techniques including Mendelian genetics (drosophila), DNA extraction, bacterial and yeast transformation, polymerase chain reaction, gene knockout (yeast), and proper note keeping.
2. 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]
3. Effectively apply knowledge and skills to a real-world experience, creative project, or independent intellectual investigation. [JCC Gen Ed – Applied Learning SLO 1]
4. Thoughtfully reflect on connections between concepts studies in the classroom & insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning SLO 2]

Topics Covered:

- Introduction to Drosophila
- Drosophila Mendelian Genetics Project
- DNA Extraction
- Bacterial Transformation
- Polymerase Chain Reaction
- Yeast Knockout project

Information for Students:

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
- Accessibility Services: <https://www.sunyjcc.edu/accessibility>
- Get Help: <https://www.sunyjcc.edu/gethelp>
- Emergency closings: <https://www.sunyjcc.edu/jccalert>
- Course grades are 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:

Letter Grade	A	B+	B	C+	C	D+	D	F
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Numerical Grade	4.0	3.5	3	2.5	2	1.5	1	0
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- 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 Term: Fall 2026