

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: SURI: Biotechnology II

Course Abbreviation and Number: BIO 2820

Credit Hours: 4

Course Type: Lecture/Lab

Course Description: Students will be exposed to authentic laboratory environments and the practice application of scientific method in context of research projects. The course is divided into laboratory experience and a weekly three hour colloquium where students receive lectures on key topics and present scientific literature. Colloquium also trains students in lab notebook keeping, scientific presentation skills and reading/presenting biotechnology and biomedical literature. Students are divided into either Biotechnology I or Biotechnology II, depending on their level of experience, but are blended together in a single course. Biotechnology II students are required to understand and explain the underlying concepts in scientific literature and in their own research at an undergraduate level. This includes the methods, results, and conclusions drawn in the research. Research topics range from cancer biology and immunology to environmental biotechnology and deliberately use methods and interpretation of results unique to the field of biotechnology.

Prerequisite: ENG 1530 and BIO 2531 or BIO 2560 or BIO 2800 or 2840.

General Education Requirements Met

SUNY

JCC

Applied Learning

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Critically evaluate, troubleshoot and communicate experimental data at the level of a Biotechnology II undergraduate student.
 2. Demonstrate competency in the use of biotechnology techniques.
 3. Demonstrate professionalism in their personal conduct, including scientific integrity, the proper use of scientific method and safety procedures.
 4. Demonstrate the ability to keep a professional laboratory notebook.
 5. Effectively apply knowledge and skills to a real-world experience, creative project, or independent intellectual investigation. [JCC Gen Ed – Applied Learning]
 6. Thoughtfully reflect on connections between concepts studies in the classroom and insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning]
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Topics Covered:

Colloquium:

- Reading and interpreting scientific literature in the field of biotechnology at a Biotechnology I level
- Communicating effectively in a scientific presentation in the field of biotechnology at a Biotechnology II level
- How to properly keep a lab notebook
- Proper interpretation of graphs and scientific data at a Biotechnology II level
- Applying scientific method and designing well controlled biotechnology experiments
- Operating professionally in a biotechnology laboratory setting
- Proper use of common methods in biotechnology and interpretation of data

Laboratory:

- Properly using biotechnology safety procedures
 - Properly making solutions and basic laboratory chemistry
 - Designing a well controlled experiment and proper use of scientific method
 - Showing proficiency in conducting biotechnology techniques with success in mind
 - Critically analyzing data at a Biotechnology II level
 - Successful approaches to troubleshooting experiments at a Biotechnology II level
 - Using online biotechnology databases effectively at a Biotechnology II level
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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
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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 Date: Fall 2023