

BIO247: Applied Biosciences, Biotechnology

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ASU Transfer Information:

- MBB 247

Lecture Format:

- Power Point is used during every lecture period to present lecture material.
- Power Point outlines are provided to supplement every lecture
- Animations, videos, and interactive material are used during every lecture for teaching and student activities
- Collaborative, group-based activities are part of the lecture format

Laboratory Format:

- Hands-on activities are performed during every lab session by individual students or groups of 2 to 4 students
- Activities include exposure to living organisms and chemicals
- Each student is expected to demonstrate their proficiency at operating lab equipment as well as their understanding of theoretical and technical concepts covered in each lab section
- Each student is expected to turn in a completed form reporting their results at the end of each lab

Examination and Quiz Format:

- In class multiple-choice and short essay question exams (4)
- Optional cumulative multiple-choice final (1)

Assignments:

- Selected readings in chapters of text book and other supplemental books
- Sets of short essays (4) based on peer-reviewed articles
- Oral presentation on student-selected topics (1)

Attendance:

- Attendance is required and will be recorded in both lecture and laboratory.
- After 3 unexcused absences in lecture and/or 1 unexcused absence in lab, students will be withdrawn from the class

Prerequisites

- BIO247 is a program prerequisite for the Molecular Biosciences and Biotechnology Program. Students have to have completed BIO 181 upon registration.
- Demonstrate knowledge of atomic theory and biological macromolecules
- Demonstrate knowledge of cell structure and function
- Demonstrate knowledge of cell transport processes, including osmosis and diffusion
- Demonstrate knowledge of the processes involved in cell reproduction
- Demonstrate knowledge of the processes involved in DNA duplication
- Demonstrate knowledge of the processes involved in protein synthesis
- Demonstrate knowledge of laboratory safety skills and procedures
- Practice of principles of scientific method while conducting laboratory activities and experiments

Skills that help students succeed in this course

- Student accountability and commitment to their own learning are essential
- Ability to understand written and verbal instructions are essential
- Strong study habits and time management skills are essential.
- College level reading and writing abilities are important.
- High School Algebra skills and basic computer literacy are important