



## BIO 240: Cell Biology

This course considers the molecular structure of cells, cell energetics, the role of nucleic acids, cell division, and fertilization. The laboratory covers microscopic studies of cells and methods for studying macromolecules and cells. Prerequisite: BIO 121. Three lecture hours and three laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

### Course Student Learning Outcomes

1. Become familiar with the various subcellular structures and organelles inside eukaryotic cells.
2. Understand how proteins and lipids are synthesized, transported, and degraded.
3. Learn about vesicular trafficking, endocytosis, and exocytosis.
4. Gain an introduction to cellular signal transduction mechanisms, also known as cell signaling.
5. Become familiar with the molecular structure and behaviors of the cytoskeleton.
6. Understand the basic events of the cell cycle and the importance of programmed cell death (apoptosis) and what happens when the cell cycle becomes uncontrolled (cancer).
7. Become familiar with the various categories of stem cells.
8. Gain an appreciation for the relevance of cell biology to human disease and current medical practices.

**Credits:** 4

**Program:** Biology