Northwest Arkansas Community College
Division of Science & Mathematics

BIOL 2534 Cell Biology

Catalog Description: An Introduction to cell structure and function. Three hours lecture and three hours laboratory weekly.

Prerequisite: At least one semester of college biology and one semester of college chemistry.

Credit hours/ Contact hours/ Load hours: 4/6/5

Target Audience/Transferability: A laboratory science course intended for science majors and students interested in a more detailed treatment of cell structure and function. BIOL 2534 is a transferable biology course and supports students seeking admission to a variety of professional programs as well as those seeking a bachelors degree in biological sciences.

Student Learning Outcomes: Students completing this course will:

- Discuss more advanced concepts of cell structure and function
- Use the scientific method to explore cell biology by creating a clear answerable question, developing a testable hypothesis, predicting results, and following an experimental protocol.
- Work with others in a laboratory environment, recognize and record pertinent information, and organize and communicate their results in a form appropriate for both written and oral presentation to others

Required Text(s):

- Becker, Kleinsmith, and Hardin, The World of the Cell, 7th edition, Pearson, 2009

Topics:

- Overview of Cell Structure and Function
- Membranes and cell signaling
- Energy Flow in Cells
- Information Flow in Cells
- The Cytoskeleton and Cell Mobility

Required Methods of Instruction: Lecture presentations and laboratory activities will emphasize an inquiry approach to teaching course content. Laboratory sessions require hands-on investigation of various aspects of cell structure and function, biomolecules, cell processes, energetics and cell diversity.

Forms of Assessment: Required forms of assessment include written examinations, formal laboratory reports, oral presentations, and demonstration of understanding of the principles presented in lecture. Also, students will be required to demonstrate proficiency in applying core laboratory skills and practices used in the study of cells.