

# MOLECULAR AND CELL BIOLOGY, B.S.

## LEARNING OUTCOMES

1. Integrate the energetic and thermodynamic bases of life, with an emphasis on the molecular mechanisms underlying them
2. Integrate the nature of genetic material and its roles in inheritance, evolution, and cellular function
3. Summarize the fundamental relationship between the structure and function of biological macromolecules
4. Summarize the principles of cell structure, function, and biological dynamics
5. Appraise the molecular mechanisms and quantitative principles in biochemistry/physical chemistry, cellular systems, genetics, and microbiology.
6. Develop skills to communicate scientific information in oral and written form
7. Develop the ability to formulate hypotheses and plan, design, and carry out scientific experiments to test them
8. Developing quantitative reasoning skills and the ability to use quantitative approaches to understand basic principles of life.