

# UNIVERSITY OF CALIFORNIA, RIVERSIDE

## Student Learning Outcomes for the B.S. in Microbiology

Students completing the B.S. major will be able to:

1. *apply critical thinking skills:*  
When faced with a problem or the unknown, students can formulate a hypothesis and design an experiment to test it. They are able to draw on existing knowledge in the form of scientific literature, other published materials and online content, judge the relative quality of these sources and use this knowledge to answer questions and set a foundation for generating new knowledge.
2. *communicate scientific ideas clearly in written format:*  
Students can draw on existing knowledge to write a synthetic paper using citations from the scientific literature and are able to summarize scientific information to a lay audience. They can also present new knowledge through written scientific reports and research papers.
3. *communicate scientific ideas clearly in oral format:*  
Students can draw on existing knowledge, using citations from the scientific literature, to create and present scientific information to a lay audience in oral format.
4. *apply technical laboratory skills:*  
Students can perform experiments described in laboratory protocols and operate basic laboratory equipment and explain the basis for their function.
5. *apply analytical and computational skills:*  
Students can evaluate quantitative and qualitative experimental data and present the data in tabular or graphical form as appropriate. They are familiar with standard computer software and can analyze datasets through application of appropriate basic formulae and interpret the results relative to biological principles.

Program Website: <http://cnasstudent.ucr.edu/majors/microbiology.html>