

UNIVERSITY OF CALIFORNIA, RIVERSIDE

Student Learning Outcomes for the B.A./B.S. in Mathematics

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

1. have mastered precalculus and the fundamentals of differential and integral calculus for functions of one and several variables, including the main results of vector analysis for line and surface integrals.
2. have a solid understanding of linear algebra which includes the basic material on eigenvalues and inner products, and they will also have a solid understanding of techniques for solving the standard differential equations that arise in the natural and social sciences. Furthermore, students will understand how to apply these techniques to further problems in such areas.
3. have learned how to read and write mathematical proofs, and they will be able to produce arguments that are clear, organized, syntactically correct and logically sound.
4. have deeper understanding of two or more mathematical subjects at a more advanced level from the following list: Basic abstract algebra, the theoretical framework for calculus, complex variables, differential equations, probability theory, optimization and game theory, computational mathematics, geometry (including topology and differential geometry), and applied mathematics.
5. have had enough experience in some subject(s) closely related to mathematics so that they understand how mathematical ideas are needed and used in some other areas of knowledge.

Program Website: <http://mathdept.ucr.edu/>