University of California, Santa Barbara
Program Learning Outcomes

B.S. or B.A. In Mathematics or Applied Mathematics

Students graduating with any undergraduate degree in Mathematics will:

1. Solve mathematical problems using techniques and concepts from calculus, linear algebra and differential equations.

2. Use mathematical tools to solve problems arising from other scientific disciplines and/or practical situations.

3. Demonstrate proficiency in mathematical communication, including the comprehension and writing of mathematical proofs; including writing well-organized, grammatically correct, and logically sound mathematical arguments.

4. Evaluate and interpret numerical, graphical and symbolic representations of data and effectively communicate mathematical ideas using these means.

In addition,

Students graduating with a BS in Mathematics will:

5. Demonstrate mastery of the concepts in algebra, analysis, and one other core area of mathematics as indicated on the major sheet using logical reasoning, generalization and abstraction.

Students graduating with a BS in Applied Mathematics will:

5. Model real world situations using mathematics and solve these systems employing a variety of analytical and numerical techniques.

6. Implement numerical approaches using computational software.

Students graduating with a BA in Mathematics will:

5. Demonstrate the ability to apply specific advanced mathematical tools and processes using logical reasoning, generalization and abstraction.

Mathematics BA graduates with a concentration in High School Teaching will:

5. Demonstrate an understanding from an advanced perspective of core mathematical topics such as number systems, algebra and geometry to enable them to teach successfully from the K-12 California State Content Standards.