California State University, Stanislaus

[Archived Catalog]

Department of Mathematics

Michael Bice, Ph.D., Chair

Professors: An, Bice, Coughlin, Hoover, Jue, Reneau, Sundar **Associate Professors:** Johannsdottir, Martin, D., Wu

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The degree programs presuppose seven semesters of high school level mathematics: algebra (2 years), plane geometry (1 year), and trigonometry (1/2 year); solid geometry and physics are desirable. Deficiencies may be made up by proper selection of courses in the lower division. Recommended courses in lower-division supporting fields are one year of computer science, or economic theory, or general physics with calculus.

Courses in mathematical computing, mathematics, operations research and statistics are designed to provide quality undergraduate training in the mathematical sciences and to serve the needs of majors in mathematics, the natural and social sciences, and other fields. The degree programs of the Department of Mathematics provide preparation for various careers in the mathematical sciences.

Liberal Studies Concentration in Mathematics

Please refer to the Liberal Studies section of this catalog.

Teaching Credentials

Majors in mathematics interested in multiple subject or single subject credentials are referred to the <u>Teacher Education</u> section of this catalog for a description of teaching credential programs. Students may fulfill the subject matter prerequisites to enter a teaching credential program to obtain a single subject teaching credential in mathematics by completing the <u>Mathematics Subject Matter Preparation Program</u>.

Program Learning Outcomes

Students will be able to:

- 1. Use problem-solving techniques to solve both standard and nonstandard mathematical problems.
- 2. Use mathematical models to represent and solve real-world problems.
- 3. Use appropriate technology for solving mathematical problems.
- 4. Apply mathematical reasoning in solving complex problems.
- 5. Develop enthusiasm and an appreciation for studying and applying mathematics.
- 6. Comprehend and write mathematical proofs.
- 7. Effectively communicate mathematical concepts in written and oral form.
- 8. Demonstrate understanding of the theory, techniques, and applications of calculus and differential equations, linear algebra, geometry, statistics, and abstract algebra.

In addition, students in the Subject Matter Preparation Program (SMPP) will be able to:

- 9. Explain, using a multitude of methods, mathematical concepts taught in secondary education.
- 10. Make written and oral presentations explaining mathematical concepts, ideas, and techniques.

Programs

- <u>Mathematics B.A. Subject Matter Preparation Program (Mathematics)</u>
- Mathematics B.A./B.S.
- <u>Mathematics Minor</u>