**Program Prerequisites**

- Bachelor's degree in Mathematics (or related area)
- Overall GPA of 2.5+ and GPA of 3.0+ for all upper division Mathematics courses
- Four semesters of Calculus
- A computer programming course (or equivalent experience)
- Upper division courses in Mathematical Probability and Advanced Calculus/Analysis (or equivalent courses approved by the graduate committee of the Mathematics Department)
- Work experience also considered
- GRE Scores and Letters of Recommendation are not required

For a full description of coursework and prerequisites, visit [http://math.fullerton.edu/applied](http://math.fullerton.edu/applied).
If you are interested in a career in industry, CSUF has a flexible program to meet your needs. Designed for those who are seeking or currently hold positions involving mathematical or quantitative applications, our program was developed in consultation with mathematicians and scientists from the local industrial community.

Coursework

**First Year**

**Fall Semester**

**Math 489A/Math 489B**  
Applicable Analysis and Linear Algebra

Course overview:
- Finite and Infinite Dimensional Vector Spaces
- Linear Transformations and Matrices
- Normed and Inner Product Spaces
- Contractive Maps and Fixed Point Iteration
- Series Solutions
- The Projection Theorem and Applications
- Initial and Boundary Value Problems
- Eigenvalues and Eigenfunctions
- Fourier Analysis
- Generalized Functions

**Spring Semester**

**Math 501A/Math 501B**  
Numerical Analysis and Computation

Course overview:
- Linear and Nonlinear Systems of Equations
- Numerical Linear Algebra
- Interpolation and Approximation
- Error Analysis
- Numerical Solutions of Ordinary and Partial Differential Equations
- Spline Functions and the Finite Element Method

**Summer Session**

**Math 502A/Math 502B**  
Probability and Statistics

Course overview:
- Probability Models
- Univariate and Multivariate Distributions
- Expectations
- Sampling Theory
- Statistical Estimation
- Bayesian Methods
- Hypothesis Testing
- Introduction to Linear Models

**Second Year**

**Fall Semester**

**Math 503A/Math 503B**  
Mathematical Modeling and Simulation

Course overview:
- Dimensional Analysis
- Mathematical Modeling based on Ordinary and Partial Differential Equations
- Mathematical Methods Used in the Development and Analysis of Mathematical Models in Science and Engineering
- Monte Carlo Simulation
- Application of Probability Models and Statistical Methods in Engineering and Operations Research
- Introduction to Stochastic Processes, Including Topics in Signal and Image Processing

**Spring Semester**

**Math 597**  
Graduate Project

Faculty-supervised student teams will work on projects sponsored and funded by local industrial firms. Each project offers students exciting opportunities to apply classroom skills to real-world problems of current interest!

**Examples of previous projects:**
- **SpiLab** – Spectral Filtering, Hypersurface, Superresolution, and 3-D Imaging with Multi-lens Bio-Inspired Cameras
- **NASA Jet Propulsion Lab** – On the Constellation of CubeSats at Earth-Moon Lagrange-1 Libration Point
- **Raytheon** – Optimal Censor Location for the WAAS System, and Development of a New Algorithm for Satellite Correction Error Bounds
- **GE Healthcare** – Understanding Constrained Reconstruction in Time Resolved Angiography: The Mathematics of HYPR
- **Earth Science Associates** – Gulf of Mexico Subsurface Pressure Estimation

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Fall 2015 Application Deadline:  
**May 31, 2015**