My courses at California State University, Fullerton

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2010 Compiled on October 14, 2025 at 5:19pm [public]

1 courses

1. spring 2010
2. spring 2009
3. fall 2008
4. summer 2008
5. spring 2008
6. fall 2007
7. summer 2007
8. spring 2007

2 links

Links to departments I took courses in

1. Applied Mathematics Dept.
2. EE dept.
3. ME dept.
4. class catalog

3 Catalog description of the official courses I've taken

1. MATH 501A Numerical Analysis and Computation I Description: Prerequisites: Mathematics 489A,B or consent of instructor. Numerical methods for linear and nonlinear systems of equations, eigenvalue problems. Interpolation and approximation, spline functions, numerical differentiation, integration and function evaluation. Error analysis, comparison, limitations of algorithms. Must be taken concurrently with Mathematics 501B.
2. MATH 501B Numerical Analysis and Computation II Description: Prerequisites: Mathematics 489A,B or consent of instructor. Numerical methods for initial and boundary-value problems for ordinary and partial differential equations. The finite element method. Error analysis, comparison, limitations of algorithms. Must be taken concurrently with Mathematics 501A.
3. MATH 503A Mathematical Modeling I (Summer, 3 units) Description: Prerequisites: Mathematics 489A,B or consent of instructor. Mathematical modeling concepts. Topics

may include: dimensional analysis, scaling, and sensitivity; system concepts, state space, observability, controllability, and feedback; dynamical systems, models and stability analysis; optimization models.

4. MATH 503B Mathematical Modeling II (Summer, 3 units) Description: Prerequisites: Mathematics 489A,B or consent of instructor. Development and analysis of mathematical models in such areas as mechanics, economic planning, operations management, environmental and ecological sciences, biology and medicine. The course includes a project, with students working in a team setting.

5. MATH 502A Probability and Statistics I (Fall, 3 units) Description: Prerequisites: Mathematics 335 and 489A,B. Theory and applications of probability models including univariate and multivariate distributions; expectations and transformations of random variables.

6. MATH 502B Probability and Statistics II (Fall, 3 units) Description: Prerequisite: Mathematics 502A. Theory and applications of sampling theory, statistical estimation, and hypothesis testing.

7. MATH 504A Simulation Modeling and Analysis Description: Prerequisites: Mathematics 501A,B; 502A,B; 503A,B; and consent of instructor. Advanced techniques of simulation modeling, including the design of Monte Carlo, discrete event, and continuous simulations. Topics will include output data analysis, comparing alternative system configurations, variance-reduction techniques, and experimental design and optimization. Must be taken concurrently with Mathematics 504B.

8. MATH 504B Applications of Simulation Modeling Techniques Description: Prerequisites: Mathematics 501A,B; 502A,B; 503A,B; and consent of instructor. Introduction to a modern simulation language, and its application to simulation modeling. Topics will include development of computer models to demonstrate the techniques of simulation modeling, model verification, model validation, and methods of error analysis. Must be taken concurrently with Mathematics 504A.

9. MATH 597 Industrial Project (Summer, 6 units) Summer Industrial Project The culminating experience is a project, which replaces the standard comprehensive examinations or thesis requirements. Here students have the opportunity to work in teams on a real problem, contracted and paid for by a local industrial firm. The project is intended to provide a realistic industrial-like experience, complete with deadlines and a written final report, where students can put what they have learned to work, and where success is based on individual initiative, teamwork, and communication skills. In order to be able to complete projects during the summer, preliminary work is integrated into Math 504A,B.

10. 409 Introduction to Linear Systems (3) Prerequisite: EGEE 309. Development of time and frequency domain models for physical systems. Linearization process and representation with block diagrams and signal flow graphs; discrete-time systems and digital signals including use of Z-transforms; stability theory of continuous and discrete time systems.

11. EE 420 Introduction to Digital Filtering (3) Prerequisite: EGEE 409. Discrete-time signals and systems; solution of difference equations; Fourier transform for a sequence; Z-transform; discrete Fourier transform; FIR and IIR realizations; design of digital filters.

12. EE 443 Electronic Communication Systems (3) Prerequisites: EGEE 310 and 323 or equivalent. Principles of amplitude, angular and pulse modulation, representative communication systems, the effects of noise on system performance.

13. EE 518 Digital Signal Processing (3) Prerequisite: EGEE 420. Discrete Fourier transform; fast Fourier transform; Chirp Z-transform; discrete time random signals; floating-point arithmetic; quantization; finite word length effect in digital filters; spectral analysis and power spectrum estimation.

14. ME 431 Mechanical Vibrations (3) Prerequisites: EGME 205 and 308, and EGCE 302. Modeling and analysis of single and multiple degrees of freedom systems. Response to forcing functions. Vibrations of machine elements. Design of vibration isolation systems. Balancing of rotating machinery. Random excitation and response of mechanical structures.

15. ME 511 Advanced Mechanical Vibrations (3) Prerequisite: EGME 431. Vibrations in rotating and reciprocating machines; noise and vibration in fluid machinery; continuous systems; random vibrations; transient and nonlinear vibration, computer applications.