

**MATH, STATISTICS & NUMERICAL METHODS**

*Math*

MATH 590	Linear Algebra (3)
MATH 596	Math in Biomedical Research (3) $\diamond$
MATH 611	Fourier Analysis of Time Series (3) <b>S*</b>
MATH 646	Complex Variable and Applications (3)
MATH 647	Applied PDEs (3)
MATH 648	Calculus of Variations (3) <b>S</b>
MATH 724	Combinatorial Mathematics (3) <b>F*</b>
MATH 725	Graph Theory (3) <b>S*</b>
MATH 750	Stochastic Adaptive Control (3) <b>S*</b>
MATH 765	Mathematical Analysis (3) <b>F</b>
MATH 766	Mathematical Analysis II (3) <b>S</b>
MATH 790	Linear Algebra II (3) <b>F</b>
MATH 791	Modern Algebra I (3) <b>S</b>
MATH 865	Stochastic Processes I (3) <b>S</b>
PHSX 718	Mathematical Methods of Physical Sci (3) <b>F</b>

*Statistics*

BIOL 570	Intro to Biostatistics (3) <b>F</b>
BIOL 841	Biometry I (5) <b>F</b>
BIOL 943	Multivariate Data Analysis (3) <b>F*</b>
BIOS 714	Biostatistics - Fund Biostatics I (3) <b>F</b>
BIOS 717	Biostatistics - Fund Biostatics II (3) <b>S</b>
BIOS 720	Biostatistics - Analysis of Variance (3) <b>F</b>
BIOS 730	Biostatistics - Appld Linear Regression (3) <b>F</b>
BIOS 740	Biostatistics - Applied Multivariate Mthds (3) <b>S</b>
BIOS 810	Biostatistics - Clinical Trials (3) <b>S</b>
BIOS 835	Biostatistics - Categorical Data Analysis (3) <b>F</b>
BIOS 840	Biostatistics - Linear Regression (3) <b>F</b>
BIOS 871	Biostatistics - Mathematical Statistics (3) <b>F</b>
BIOS 830	Biostatistics - Experimental Design (3) <b>S</b>
ESPY 710	Introduction to Statistical Analysis (3) <b>F</b>
ESPY 711	Lab for Introduction to Stats Analysis (1) <b>F</b>
MATH 605	Applied Regression Analysis (3) <b>F*</b>
MATH 627	Probability (3) <b>F</b>
MATH 628	Mathematical Theory of Statistics (3) <b>S</b>
MATH 727	Probability Theory (3) <b>F</b>
MATH 728	Statistical Theory (3) <b>S</b>
PRVM 814	Health Literacy (3) <b>F*</b>
PRVM 817	Gender, Race, Class & Health (3) <b>S*</b>

*Numerical Methods*

AE 725	Optimization and Structural Design (3) $\diamond$
AE 746	Computational Fluid Dynamics (3) <b>S</b>
BINF 701	Bioinformatics I (5) <b>F</b>
BINF 702	Bioinformatics II (5) <b>S</b>
CE 861	Finite Element Mthds- Solid Mechanics (3) <b>S</b>
CPE 701	Methods of Chemical and Petroleum Calculations (3) <b>F</b>
CPE 778	Optimization of Engineering Systems (3) <b>S</b>
EECS 639	Introduction to Scientific Computing (3) <b>F<math>\diamond</math></b>

EECS 739	Parallel Scientific Computing (3) <b>S</b>
EECS 781	Numerical Analysis I (3) <b>F</b>
EECS 782	Numerical Analysis II (3) <b>S</b>
EECS 868	Math, Optimization with Applications (3) <b>F<math>\diamond</math></b>
MATH 591	Applied Numerical Linear Algebra (3) <b>S*</b>
MATH 780	Numerical Analysis of Linear Systems (3)
MATH 783	Applied Numerical Analysis of PDEs (3) <b>S</b>
MATH 881	Adv. Numerical Linear Algebra (3) <b>F</b>
MATH 882	Adv. Numerical Differential Equations (3) <b>S*</b>
ME 702	Mechanical Engineering Analysis
ME 860	Adv. Mechanical Engr. Problems
ME 790	Optimal Estimation $\diamond$
ME 861	Theory of the Finite Element Method (3) <b>F</b>
ME 862	Finite Element Mthd -Transient Analysis (3) <b>S*</b>
ME 961	Finite Element Mthd for Nonlinear Problems in Solid Mechanics (3)***
ME 962	p-Approximation, Error Estimation, and Other Advanced Topics in the Finite Element Mthd (3)***

**ENGINEERING**

*All 700 and above Engineering courses. Suggested courses include:*

AE 709	Structural Composites (3) <b>F*</b>
AE 781	Introduction Adaptive Aerostructures (3) <b>S</b>
CE 710	Structural Mechanics (3) <b>F*</b>
CE 767	Intro to Fracture Mechanics (3) <b>S*</b>
CPE 657	Polymer Science and Technology (3) <b>S*</b>
PHCH 715	Drug Delivery (can be counted for either the Engr or Pharm-Chem category) (3) <b>F*</b>
CPE 721	Chemical Engine Thermodynamics (3) <b>F*</b>
CPE 722	Kinetics and Catalysis (3) <b>S*</b>
CPE/PHCH 725	Molecular Cell Biology (3) <b>S*</b>
CPE 731	Convection Heat & Momentum (3) <b>F</b>
CPE 751	Basic Rheology (3) *** <b>S</b>
CPE 752	Tissue Engineering (3) <b>S</b>
CPE 765	Corrosion Engineering (3) <b>S</b>
CPE 778	Applied Optimization Techniques (3) <b>S*</b>
EECS 731	Introduction to Data Science (3) <b>F<math>\diamond</math></b>
EECS 741	Computer Vision (3) <b>F*</b>
ME 712	Adv Engineering Thermodynamics (3) <b>F</b>
ME 714	Thin Film Flow (3) <b>F</b>
ME 722	Modeling Dynamics of Mech. Sys. (3) <b>S*</b>
ME 750	Human Motion Biomechanics (3) <b>F*</b>
ME 751	Experimental Biomechanics (3)***
ME 753	Bone Biomechanics (3) *** <b>S</b>
ME 754	Biomedical Optics (3) <b>S</b>
ME 755	Computer Simulation Biomechanics (3) <b>F*</b>
ME 756	Biofluids (3) <b>S</b>
ME 757	Biomechanical Systems (3) <b>S*</b>
ME 758	Physiological Systems (3) <b>S</b>

