

MATH, STATISTICS & NUMERICAL METHODS

Math

MATH 590	Linear Algebra (3)
MATH 596	Math in Biomedical Research (3) ◇
MATH 611	Fourier Analysis of Time Series (3) S*
MATH 646	Complex Variable and Applications (3) F
MATH 647	Applied PDEs (3)
MATH 648	Calculus of Variations (3) S
MATH 724	Combinatorial Mathematics (3) F*
MATH 725	Graph Theory (3) S*
MATH 750	Stochastic Adaptive Control (3) *
MATH 765	Mathematical Analysis (3) F
MATH 766	Mathematical Analysis II (3) S
MATH 790	Linear Algebra II (3) F
MATH 791	Modern Algebra I (3) S
MATH 865	Stochastic Processes I (3) S
PHSX 718	Mathematical Methods of Physical Sci (3) F
PHSX 721	Chaotic Dynamics (3) F***

Statistics

BIOL 570	Intro to Biostatistics (3) F
BIOL 841	Biometry I (5) F
BIOS 714	Biostatistics - Fund Biostatics I (3) F
BIOS 717	Biostatistics - Fund Biostatics II (3) S
BIOS 720	Biostatistics - Analysis of Variance (3) S
BIOS 730	Biostatistics - Appld Linear Regression (3) F
BIOS 740	Biostatistics - Appl Multivariate Mthds (3) S
BIOS 810	Biostatistics - Clinical Trials (3) S
BIOS 835	Biostatistics - Categorical Data Analysis (3) F
BIOS 840	Biostatistics - Linear Regression (3) F
BIOS 871	Biostatistics - Mathematical Statistics (3)
BIOS 830	Biostatistics - Experimental Design (3) S
MATH 605	Applied Regression Analysis (3) F*
MATH 627	Probability (3) F
MATH 628	Mathematical Theory of Statistics (3) S
MATH 727	Probability Theory (3) F
MATH 728	Statistical Theory (3) S

Numerical Methods

AE 725	Optimization and Structural Design (3) ***◇
AE 746	Computational Fluid Dynamics (3) F*
BINF 701	Bioinformatics I (5) F
BINF 702	Bioinformatics II (5) S
CE 861	Finite Element Mthds- Solid Mech. (3) S
C&PE 701	Mthds of Chem and Petro Calculations (3) F
C&PE 778	Optimization of Engineering Systems (3) S
EECS 639	Introduction to Scientific Computing (3) F
EECS 739	Parallel Scientific Computing (3) S
EECS 781	Numerical Analysis I (3) F
EECS 782	Numerical Analysis II (3) S
EECS 868	Math, Optimization with Applications (3) S
MATH 591	Applied Numerical Linear Algebra (3) S*

MASTER BREADTH COURSE LIST

Revised: November 2022

MATH 882	Adv. Numerical Differential Equations (3) S
ME 702	Mechanical Engineering Analysis (3) F
ME 708	Microcomputer Applic Mech Engin (3) S
ME 788	Optimal Estimation (3) S*
ME 860	Adv. Mechanical Engr. Problems
ME 861	Theory of the Finite Element Method (3) F
ME 862	Finite Element Mthd -Transient Analysis (3) S

ENGINEERING

All 700 + Engr courses count. Suggested courses include:

AE 709	Structural Composites (3) F*
CE 710	Structural Mechanics (3) F
CE 767	Intro to Fracture Mechanics (3) S
C&PE 715	Topics in Chem&Petroleum Engr (3)
C&PE 732	Advanced Transport Phenomena II (3) S
C&PE 751	Basic Rheology (3) ***S
C&PE 752	Tissue Engineering (3) F*
C&PE 778	Applied Optimization Techniques (3) S*
EECS 644	Intro Digital Signal Processing (3) F
EECS 730	Intro to Bioinformatics (3) ***
EECS 731	Introduction to Data Science (3) F◇
EECS 738	Machine Learning (3) S
EECS 739	Parallel Scientific Computing (3) S*
EECS 837	Data Mining (3) F
EECS 861	Random Signals & Noise (3) F
ME 722	Modeling Dynamics of Mech. Sys. (3) F
ME 750	Human Motion Biomechanics (3) F*
ME 751	Experimental Biomechanics (3) F***
ME 753	Bone Biomechanics (3) S***
ME 754	Biomedical Optics (3) F***
ME 755	Computer Simulation Biomechanics (3) F*
ME 757	Biomechanical Systems (3) S*
ME 758	Physiological Systems (3) S*
ME 760	Biomedical Product Design (3) S
ME 765	Biomaterials (3) F
ME 767	Molecular Biomimetics (3)
ME 790	Special Topics (3) ◇
ME 854	Continuum Mechanics for Soft Tissues (3) S
ME 890	Special Topics (3) S
ME 990	Special Topics (3) F

BIOLOGICAL SCIENCES

ANAT 832	Electron Micro Tec (3)
ANAT 845	Histology (2) S
BIOL 503	Immunology (3) F
BIOL 560	Histology (3) S
BIOL 600	Intro to Biochemistry (3)
BIOL 636	Biochemistry I (3) F

HSES 910	Biochemistry of Exercise (3) S
PHSL 835	Integrative Physiology of Exercise (3) S*
PHSL 838	Advanced Topics – Fundamentals of Imaging
PHSL 844	Neurophysiology (3) S*
PHSL 846	Advanced Neuroscience (5) SU
PHSL 848	Mol Mechanisms Neurological Disord (3) F*
REHS 862	Cell & Molecular Basis of Rehab (2) F
REHS 887	Neurorehabilitation (3) S
REHS 970	Instrumental Analysis of Human Function (3) F