

Math

AMCS 601 Algebraic Techniques for Applied Mathematics and Computational Science I
AMCS 602 Algebraic Techniques for Applied Mathematics and Computational Science II
AMCS 608 Analytic Techniques for Applied Math and Computational Science I
AMCS 609 Analytic Techniques for Applied Mathematics and Computation Science II
BE 530 Theoretical and Computational Neuroscience
BE 567 Mathematical Computation Methods for Modeling Biological Sys
BE 584 Mathematics of Medical Imaging and Measurements
BE 619 Statistical Mechanics
BIOL 556 Advanced Statistics
BIOM 520 Concepts and Methods in Biostatistics - Basic
BIOM 521 Concepts and Methods in Biostatistics - Intermediate
BSTA 620 Probability I
BSTA 621 Statistical Inference I
BSTA 622 Statistical Inference II
BSTA 630 Statistical Methods for Data Analysis I
BSTA 631 Statistical Methods for Data Analysis II
BSTA 651 Introduction to Linear Models and Generalized Linear Models.
BSTA 774. Statistical Methods for Evaluating Diagnostic Tests.
CBE 508 Probablity and Statistics for Biotechnology
CBE 520 Modeling, Simulations, and Optimization of Chemical Processes
CBE 617 Control of Nonlinear Systems
Chem 521 Statistical Mechanics 1
CIS 536 Computational Biology
ENM 502 Numerical Methods and Modeling
ENM 503 Introduction to Probability and Statistics
ENM 510 Foundations of Engineering Mathematics I
ENM 511 Foundations of Engineering Mathematics II
ENM 520 Theory and Computation for ODE/PED-constrained optimization
ENM 520 Topics in Computational Science and Engineering
ENM 600 Functional Analysis
ENM 601 Special Topics in Engineering Mathematics - Nonlinear Dynamics and Chaos
ESE 500 Linear Systems Theory
ESE 502 Introduction to Spatial Analysis
ESE 504 Introduction to Optimization Theory
ESE 505 Control of Systems
ESE 530 Elements of Probability Theory and Random Processes
ESE 531 Digital Signal Processing
ESE 603 Simulation Modeling and Analysis
ESE 632 Random Process Models and Optimum Filtering
ESE 674 Information Theory
Math 584 Mathematics of Medical Imaging
MEAM 521 Introduction ot Parallel Computing
MEAM 522 Fundamentals of Sensor Technology
MEAM 527 Finite Element Analysis
MEAM 528 Advanced Kinematics
PUBH 501 Intro to Biostats
Stat 500 Applied Regression and Analysis of Variance.
Stat 510 Probability
STAT 512 Mathematical Statistics.
STAT 530 Probability
STAT 541 Statistical Methods

Biological Science courses

BE 513 Molecular and Cellular Biology
BE 555 Nanoscale Systems Biology.
BIOM 501 Mechanisms of Disease and Therapeutic
BIOM 600 Cell Biology
BMB 508 Molecular Biophysics I
BMB 509 Macromolecular Biophysics II
BMB 567 Bioinorganic Chemistry
BMB 590 Biological Physics
BMB 614 Membrane Structural Biology
BMB 616 Medical Problems in Modern Biochemistry
BMB 622 Physical Principles of Mechano-Enzymes
BMB 624 Ion Channels and Pumps
BMB 625 Optical Methods in Cell Physiology
BMB 626 Mass Spectrometry and Proteomics
BSTA 509 Introduction to Epidemiology
BSTA 510 Introduction to Anatomy and Physiology
CAMB 511 Principles of Development
CAMB 526 Experimental Principles in Cell and Molecular Biology
CAMB 532 Human Physiology
CAMB 550 Genetic Principles
CAMB 597 Developmental Neuroscience
CAMB 609 vaccines and Immunization Therapy
CAMB 610 Molecular Basis of Gene Therapy
CAMB 638 Advanced Seminar in Cell Death and Survival
CAMB 752 Genomics
GCB 527 Genetics for Computational Biology
IMUN 506 Immune Mechanisms
IMUN 508 Immune Responses
IMUN 609 Vaccines and Immune Therapeutics
INSC 575 Neurobiology of Learning and Memory
MEAM 555 Nanoscale Systems Biology
NGG 581 Auditory Neurobiology
NGG 573 Neuroscience Core III
NGG 575 Neurobiology of Learning and Memory
NGG 592 Cognitive Neuroscience of Memory
NGG 593 Structural Neurobiology
NGG 598 Advanced Systems Neuroscience
NGG 618 Recovery after Neural Injury
NGG 631 Cognitive Neuroscience Affect
NGG 632 Cognitive Neuroscience Vision
PHRM 57 Principles of Cardiovascular Biology
PHRM 531 Intro to Genome Science
PHRM 600 Medical Pharmacology
Phys 580 Biological Physics

Engineering and Science Electives

BE 526 Building Brains in Silicon
BE 539 Neural Networks, Chaos, and Dynamics: Theory and Application
BE 583 Molecular Imaging
BMB 628 Principles of Scientific Instruments
CBE 535 Interfacial Phenomena
EAS 504 Fundamental Concepts in Nanotec
EAS 545 Engineering Entrepreneurship I
EAS 546 Engineering Entrepreneurship II
ENM 502 Numerical Methods and Modeling
ENM 503 Introduction to Probability and Statistics
ENM 510 Foundations of Engineering Mathematics I
ENM 511 Foundations of Engineering Mathematics II
ENM 520 Theory and Computation for ODE/PED-constrained optimization
ENM 600 Functional Analysis
ENM 601 Special Topics in Engineering Mathematics - Nonlinear Dynamics and Chaos
ESE 510 Electromagnetic and Optical Theory
ESE 511 Modern Optics and Image Understanding
ESE 514 Physics of Materials
ESE 519 Real-Time Embedded Systems
ESE 525 nanoscale Science and Engineering
ESE 529 Introduction to MEMS and NEMS
ESE 572 Analog Integrated Circuits
ESE 574 The Principles of Microfabrication Technology
MSE 500 Experimental Methods in Material Science
MSE 505 Mechanical Properties of Macro/Nanoscale Materials
MSE 520 Structure of Materials
MSE 537 Nanomechanics and Nanotribology at Interfaces
MSE 550 Mechanical Properties of Nano and Macro-Scale Materials
MSE 565 Fabrication and Characterization of Nanostructured Devices
MSE 566 Physical Properties of Ceramics
MSE 570 Physics of Materials I
MSE 571 Physics of Materials II
MSE 580 Polymers and Biomaterials
MSE 650 Micromechanics of Deformation and Fracture
MSE 670 Statistical Mechanics of Solids
MTR 608 Translational Research

BE Fundamentals

BE 502 From Biomedical Science to the Marketplace
BE 512 Bioengineering III: Biomaterials
BE 521 Brain-Computer Interfaces
BE 537 Biomedical Image Analysis
BE 540 Biomolecular and Cellular Engineering
BE 546 Fundamental Techniques of Imaging I
BE 547 Fundamental Techniques of Imaging 2
BE 550 Hemodynamics
BE 552 Cellular Bioengineering
BE 553 Principles, Methods, and Applications of Tissue Engineering
BE 554 Engineering Biotechnology
BE 555 Nanoscale Systems Biology
BE 557 From Cells to Tissue: Engineering Structure and Function
BE 562 Drug Discovery and Development
BE 567 Mathematical and Computational Modeling of Biological Systems
BE 580 Medical Radiation Engineering
BE 581 Techniques of Magnetic Resonance Imaging
BE 583 Molecular Imaging
BE 608 Translational Therapeutics
BIOL 536 Computational Biology
BIOL 537 Advanced Computational Biology
BMB 554 Macromolecular Crystallography: Methods and Applications
BMB 590 Biological Physics
BMB 601 Fundamentals of Magnetic Resonance
BMB 603 Advanced Topics in Magnetic Resonance
BMB 618 Applications of High Resolution NMR Spectroscopy to Problems in Structural Biology
BMB 625 Optical Methods in Cell Physiology
BMB 626 Mass Spectrometry and Proteomics
CAMB 526 Experimental Principles in Cell and Molecular Biology
CAMB 550 Genetic Principles
CBE 510 Polymer Engineering
CBE 560 Biomolecular Engineering
CBE 563 Development and Manufacturing of Biopharm
CBE 640 Transport Processes I
CBE 641 Transport Processes II
ESE 530 Elements of Neural Computation, Complexity, and Learning
ESE 574 The Principles of Microfabrication Technology
ESE 580 Polymers and Biomaterials
MEAM 505 Mechanical Properties of Macro/Nanoscale Materials
MEAM 519 Mechanical Properties of Nano and Macro-Scale Materials
NGG 594 Computational Neuroscience
PHRM 531 Intro to Genome Science
MEAM 521 Introduction to Parallel Computing
MEAM 522 Fundamentals of Sensor Technology
MEAM 527 Finite Element Analysis
MEAM 530 Continuum Mechanics
MEAM 544 Continuum Biomechanics
MEAM 554 Mechanics of Materials
MEAM 555 Nanoscale Systems Biology
MEAM 570 Transport Processes I
MEAM 625 Haptic Interfaces
MEAM 644 BioTransport: Fluid Mechanics, Heat and Mass Transfer

Also Required for PhD students

BE 699 Bioengineering Seminar
BE 799 Research Rotation
EAS 900 Resp Conduct Research Engineering