

Applied Math Electives

Biomedical Engineering

BME 4001 Biotransport/Biomolecular
BME 4250 Biomechanics I
BME 5005 Computational Neuroscience
BME 5433 Biological Statistical Signal Processing
BME 6002 Molecular Biophysics
BME 6250 Biomechanics II

Chemical Engineering

CH EN 3353 Fluid Mechanics
CH EN 3453 Heat Transfer
CH EN 4253 Process Design
CH EN 5203 State Space Control

Computer Science

CS 3200 Introduction to Scientific Computing and Data Computing
CS 4150 Algorithms
CS 5150 Advanced Algorithms
CS 5310 Robotics
CS 5320 Computer Vision
CS 5610 Interactive Computer Graphics
CS 5630 Visualization for Data Science

Electrical and Computer Engineering

ECE 3300 Fundamentals of Electromagnetics and Transmission Lines
ECE 3500 Fundamentals of Signals and Systems
ECE 3510 Introduction to Feedback Systems
ECE 3740 Introduction to Quantum Theory and Relativity
ECE 5340 Numerical Techniques in Electromagnetics
ECE 5510 Random Processes
ECE 5520 Digital Communication Systems
ECE 5530 Digital Signal Processing
ECE 5670 Control of Electric Motors

Geology and Geophysics

GEO 5060 Global Geophysics
GEO 5210 Seismology I: Tectonophysics and Elastic Waves
GEO 5220 Seismology II: Exploration and Engineering Seismology
GEO 5240 Electromagnetic Methods
GEO 5250 Inversion Theory and Applications
GEO 5320 Signal and Image Processing in the Geosciences
GEO 5330 Earthquake Seismology and Hazard Assessment
GEO 5360 Fluid Dynamics of Earth Materials

Mechanical Engineering

ME EN 4610 Heat Transfer
ME EN 5200 Classical Control Systems
ME EN 5210 State Space Methods
ME EN 5300 Advanced Strength of Materials
ME EN 5400 Vibrations
ME EN 5410 Intermediate Dynamics
ME EN 5500 Engineering Elasticity
ME EN 5510 Introduction to Finite Elements
ME EN 5600 Intermediate Thermodynamics
ME EN 5700 Intermediate Fluid Dynamics
ME EN 5710 Aerodynamics
ME EN 5810 Thermal Systems Design

Metallurgical Engineering

MET E 5610 Proton Exchange Membrane Fuel Cells
MET E 5670 Mineral Processing I
MET E 5680 Mineral Processing II
MET E 5710 High-Temperature Chemical Processing
MET E 5750 Rate Processes
MET E 5760 Process Synthesis, Design, and Economics

Mining Engineering

MG EN 5050 Mine Ventilation and Air Conditioning
MG EN 5060 Heat Energy Systems
MG EN 5150 Mechanics of Materials
MG EN 5160 Rock Mechanics Applications
MG EN 5290 Introduction to Finite Element and other Numerical Models in Geomechanics

Physics

PHYS 3740 Introduction to Quantum Theory and Relativity
PHYS 3760 Principles of Thermodynamics and Statistical Mechanics
PHYS 4410 Classical Physics I
PHYS 4420 Classical Physics II
PHYS 5010 Theoretical Classical Mechanics and Quantum Mechanics
PHYS 5020 Theoretical Electricity and Magnetism and Statistical Physics
PHYS 5110 Introduction to Nuclear and Particle Physics
PHYS 5450 Introduction to Quantum Mechanics
PHYS 5460 Quantum Mechanics and Statistical Mechanics
PHYS 5510 Solid-State Physics I
PHYS 5520 Solid-State Physics II
PHYS 5580 Cosmology