Applied Math Electives

**Biomedical Engineering**
- BME 4001 Biotransport/Biomolecular
- BME 4250 Biomechanics I
- BME 5005 Computational Neuroscience
- 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

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