

## MATH/SCIENCE ELECTIVES FOR ELEC/WIRE MAJORS

The intent of the math/science elective is to allow you to choose a class that you find interesting or useful, while partially satisfying the ABET requirement of one year of mathematics and basic science. The following guidelines are provided to assist you with your selection.

The three-credit math/science elective must be satisfied from the following list of COSAM courses in Biological Sciences, Chemistry, Discrete and Statistical Sciences, Geology, Mathematics, and Physics. (This list takes into account prerequisite courses that would normally be taken in the ELEC/WIRE curricula.)

### Biology:

BIOL 1020/1021 – Principles of Biology  
BIOL 1027 – Honors Biology

### Chemistry (CHEM 1030/1031 required for ELEC/WIRE)

CHEM 1040/1041 – Fund. of Chemistry II  
CHEM 1127/1128 – Honors General Chemistry II

### Geology

GEOL 1100/1101 – Physical Geology  
GEOL 3150 – Engineering Geology

### Physics (Curriculum requires PHYS 1600/1601, 1610/1611)

PHYS 1150/1151 – Astronomy  
PHYS 2100 – Intermediate Mechanics  
PHYS 2200 – Introductory Quantum Physics and Relativity  
PHYS 3100 – Intermediate Electricity and Magnetism  
PHYS 3500/3501 – Physics of the World Around Us

### Statistics

STAT 3010 – Statistics for Engineers and Scientists  
STAT 3600 – Probability and Statistics I  
STAT/MATH 5670 - Probability and Stochastic Processes I  
STAT/MATH 5690 - Chaotic and Random Phenomena

Mathematics: See reverse side for list

Mathematics (Curriculum requires MATH 1600,1610,2630,2650,2660)

- MATH 3100 – Introduction to Advanced Math
- MATH 3710 – Discrete Mathematics
- MATH 4150 – Algebraic Coding Theory
- MATH 5000 – Mathematical Modeling: Continuous
- MATH 5010 – Vector Calculus
- MATH 5030 – Complex Variables with Applications I
- MATH 5050 – Matrix Theory and Applications
- MATH 5060 – Elementary Partial Differential Equations
- MATH 5120 – Information Theory
- MATH 5130 – Calculus of Variation
- MATH 5140 – Data Compression
- MATH 5160 – Introduction to Applied Mathematics
- MATH 5180 - Cryptography
- MATH 5190 – Introduction to Approximation Theory
- MATH 5280 – Systems of Differential Equations and Applications
- MATH 5300 – Theory of Difference Equations
- MATH 5370 – Linear Algebra
- MATH 5380 – Intermediate Euclidean Geometry I
- MATH 5470 – Dynamical Systems I
- MATH 5620 – Mathematical Computation and Scientific Visualization
- MATH 5630 – Introduction to Numerical Analysis I
- MATH 5650 – Theory of Nonlinear Optimization
- MATH/STAT 5670 - Probability and Stochastic Processes I
- MATH/STAT 5690 - Chaotic and Random Phenomena
- MATH 5710 – Linear Optimization
- MATH 5730 – Enumeration
- MATH 5750 – Graph Theory
- MATH 5770 – Combinatorial Designs