DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
APPROVED LISTING OF MATH/SCIENCE ELECTIVES
Spring 2020

NOTE: Electives are governed by the approved list in effect at the time a course is taken. Students should check the current list before enrolling in a course to confirm that the course is an approved elective.

ABET requires a minimum of 32 hours of a combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the discipline. Basic sciences are defined as biological, chemical, and physical sciences.

AGROECOLOGY / SOIL SCIENCE
AECL 1000 Agroecology (4)
AECL 3030 Ecological Web: Ecology of Plant Protection (3)
SOIL 4100 Soil Physics (3)

ASTRONOMY
ASTR 1050 Survey of Astronomy (4)
ASTR 2310 General Astronomy I (4)
ASTR 2320 General Astronomy II (4)

ATMOSPHERIC SCIENCE
ATSC 2000 Introduction to Meteorology (4)
ATSC 2100 Global Warming (3)
ATSC 3032 Weather Analysis and Forecasting (3)
ATSC 4001 Modeling the Earth System (4)
ATSC 4010 Atmospheric Processes I (3)
ATSC 4031 Atmospheric Dynamics (3)
ATSC 4033 Atmospheric Remote Sensing (3)
ATSC 4035 Atmospheric Processes II (3)
ATSC 4320 The Ocean Environment (3)
ATSC 4400 The Physical Basis of Climate (3)
ATSC 4410 Introduction to Micrometeorology (3)

BOTANY
BOT 3000 Plant Ecophysiology/Plant Form and Function (4)
BOT 3100 Plants and Civilization (3)

CHEMISTRY
CHEM 1030 General Chemistry II (4)
CHEM 1060 Advanced General Chemistry II (4)
CHEM 2300 Introductory Organic Chemistry (4)
Plus all Chemistry courses that have CHEM 1020, 1030, 1050, or 1060 as a prerequisite

GEOLOGY
GEOL 1100 Physical Geology (4)
GEOL 1110 Physical Geology for Engineers (4)
GEOL 2000 Geochemical Cycles and the Earth Systems (4)
GEOL 2010 Mineralogy (3)
GEOL 2020 Introduction to Petrology (2)
GEOL 2050 Principles of Paleontology (3)
GEOL 2070 Intro to Oceanography (4)
GEOL 2080 General Field Geology (3)
GEOL 2100 Stratigraphy and Sedimentation (4)
GEOL 2150 Geomorphology (4)
Plus all Geology courses that have GEOL 1100 or 2000 as a prerequisite
LIFE SCIENCES (BIOLOGY)
LIFE 1010  General Biology (4)
LIFE 2002  Global Ecology (3)
LIFE 2022  Animal Biology (4)
LIFE 2023  Biology of Plants and Fungi (4)
LIFE 2050  Biology of Aging and Human Development (3)

Plus all Life Sciences courses that have LIFE 1010 as a prerequisite

MATH
MATH 2250  Linear Algebra (3)
MATH 2300  Discrete Structures (3)
MATH 3205  Analysis I: Elementary Real Analysis (3)
MATH 3310  Applied Differential Equations II (3)
MATH 3340  Introduction to Scientific Computing (3)
MATH 3500  Algebra I: Introduction to Rings and Proofs (3)
MATH 3700  Combinatorics (3)
MATH 4200  Analysis 2: Advanced Analysis (3)
MATH 4205  Analysis 3: Undergraduate Topics in Analysis (3)
MATH 4230  Introduction to Complex Analysis (3)
MATH 4230  Introduction to Complex Analysis (3)
MATH 4255  Mathematical Theory of Probability (3)
MATH 4265  Introduction to the Theory of Statistics (3)
MATH 4340  Numerical Methods for Ordinary and Partial Differential Equations (3)
MATH 4420  Advanced Logic (3)
MATH 4500  Matrix Theory (3)
MATH 4510  Algebra II: Introduction to Group Theory
MATH 4520  Algebra III: Topics in Abstract Algebra
MATH 4550  Theory of Numbers (3)
MATH 4600  Foundations of Geometry (3)

MICROBIOLOGY / MOLECULAR BIOLOGY
MICR 2021  General Microbiology (4)
MICR 2220  Pathogenic Microbiology (4)
MICR/MOLB 2240  Medical Microbiology (5)

Plus all Micro/Molecular Biology courses that have MICR/MOLB 2021 as a prerequisite

PHYSICS
PHYS 2250  Thermodynamic Systems in Energy Science
PHYS 2310  Physics III: Wave and Optics (4)
PHYS 2320  Physics IV: Modern Physics (3)
PHYS 4340  Semiconductor Materials and Devices (3)

Plus all Physics courses that have PHYS 1210 or PHYS 1310 or PHYS 1220 as a prerequisite

STATISTICS
STAT 4220  Basic Engineering Statistics (3)
STAT 4255  Mathematical Theory of Probability (3)
STAT 4265  Introduction to the Theory of Statistics (3)

ZOOLEGY
ZOO 2040  Human Anatomy (and Human Anatomy Lab ZOO 2041) (3 + 1)
ZOO 2450  Principles of Fish and Wildlife Management (3)

Plus all Zoology courses that have LIFE 1010 as a prerequisite