

## **Technical Elective Suggestions**

Any of the courses listed in the options are good technical electives. Other example Technical Elective Courses for EVEN are listed below. If a course is not on this list, you may request approval on a petition form. Honors sections of the courses listed below will also be accepted. Check for prerequisites with your advisor and in the catalog: <http://www.colorado.edu/catalog/2016-17/>. Some graduate-level classes (5000+) can also be taken as technical electives -- check with your advisor. Note, however, that prerequisites are not listed in the catalog for graduate courses; instructor's permission may be required. Courses marked with an asterisk (\*) fulfill the earth sciences technical elective requirement (geology, meteorology or soil science). Courses marked with † will fulfill the air/earth sciences lab/field requirement.

### **Arts & Sciences**

AIRR 3010 (3) Air Force Leadership Studies I

APPM 2750 (4) Java: Training and Mathematical Algorithms.  
APPM 3010 (3) An Introduction to Nonlinear Systems: Chaos  
APPM 3050 (3) Scientific Computing in Matlab  
APPM 3170 (3) Discrete Applied Mathematics  
APPM 3310 (3) Matrix Methods and Applications  
APPM-3350 (3) Advanced Engineering Calculus  
APPM 3570 (3) Applied Probability  
APPM 4120 (3) Introduction to Operations Research  
APPM 4350 (3) Methods in Appl Math: Fourier Series/Boundary Value Prob  
APPM 4360 (3) Methods in Appl Math: Complex Variables & Appl

ASTR/GEOL 3300 (3) Extraterrestrial Life  
ASTR/ATOC 3720 (3) Planets and Their Atmospheres

ATOC 1050 (3) Weather and the Atmosphere \*  
ATOC 1060 (3) Our Changing Environment: El Nino, Ozone and Climate \*  
ATOC 1070 (1) Weather and the Atmosphere Lab \* †  
ATOC/GEOL 3070 (3) Introduction to Oceanography \*  
ATOC 3180 (3) Aviation Meteorology \*  
ATOC 3300 (3) Analysis of Climate and Weather Observation \*  
ATOC 3500/CHEM 3151 (3) Air Chemistry and Pollution \*  
ATOC 3600 (3) Principles of Climate \*

CHEM 3151/ATOC 3500 (3) Air Chemistry and Pollution  
CHEM 3311 (4) Organic Chemistry 1  
CHEM 3321 (1) Lab in Organic Chemistry 1  
CHEM 3331 (4) Organic Chemistry 2  
CHEM 3341 (1) Lab in Organic Chemistry 2  
CHEM 4011 (3) Modern Inorganic Chemistry  
CHEM 4021 (3) Inorganic Laboratory  
CHEM-4131 (3) Chemistry of Global Health  
CHEM 4141 (3) Environmental Water and Soil Chemistry  
CHEM 4171 (3) Instrumental Analysis  
CHEM 4181 (4) Instrumental Analysis Lab with Environ Emphasis  
CHEM 4251 (3) Materials Chemistry and Properties

EBIO 1030 (3) Biology: A Human Approach 1  
EBIO 1040 (3) Biology: A Human Approach 2  
EBIO 1050 (1) Biology: A Human Approach Laboratory  
EBIO 1210 (3) General Biology 1  
EBIO 1220 (3) General Biology 2  
EBIO 1230 (1) General Biology Laboratory 1  
EBIO 1240 (1) General Biology Laboratory 2  
EBIO 1300 (1-3) Topics in Biological Sciences  
EBIO 2010 (1-3) Environmental Issues and Biology  
EBIO 2040 (4) Principles of Ecology  
EBIO 2070 (4) Genetics: Molecules to Populations  
EBIO-2090 (3) Tropical Island and Marine Ecology  
EBIO-2091 (1) Marine Ecology, Oceanography and Island Ecology Field Studies

APPM 4380 (3) Modeling in Applied Mathematics  
APPM-4390 (3) Modeling in Mathematical Biology  
APPM-4440 (3) Undergraduate Applied Analysis 1  
APPM 4540 (3) Introduction to Time Series  
APPM-4450 (3) Undergraduate Applied Analysis 2  
APPM 4560 (3) Markov Processes, Queues, Monte Carlo Sims  
APPM 4580 (3) Statistical Applications: Software & Methods  
APPM 4650 (3) Intermediate Numerical Analysis 1  
APPM 4660 (3) Intermediate Numerical Analysis 2  
APPM 4720 (3) Open Topics in Applied Mathematics

ASTR 3830 (3) Astrophysics 2 - Galactic and Extragalactic  
ASTR 4330 (3) Cosmochemistry

ATOC/ASTR 3720 (3) Planets and Their Atmospheres  
ATOC-4200 (3) Biogeochemical Oceanography  
ATOC/ASEN 4215 (3) Descriptive Physical Oceanography \*  
ATOC 4500 (1-3) Special Topics in Atmospheric and Oceanic Sciences  
ATOC 4700 (3) Weather Analysis and Forecasting  
ATOC 4720 (3) Intro to Atmospheric Physics & Dynamics \*  
ATOC 4750 (3) Desert Meteorology and Climate \*

CHEM 4261 (3) Organic Materials: Structures and Functions  
CHEM 4271 (3) Chemistry of Solar Energy  
CHEM 4431 (3) Physical Chemistry w Biochemistry Applications 2  
CHEM 4531 (3) Physical Chemistry 2  
CHEM 4581 (1) Physical Chemistry Lab 1  
CHEM 4591 (2) Physical Chemistry Lab 2  
CHEM 4611 (3) Survey of Biochemistry  
CHEM 4621 (3) Genome Databases: Mining and Management  
CHEM 4711 (3) General Biochemistry 1  
CHEM 4731 (3) General Biochemistry 2  
CHEM 4751 (3) Current Topics in Biochemical Research  
CHEM 4761 (4) Biochemistry Laboratory  
CHEM 4791 (3) Bioorganic Chemistry in Biotechnology

EBIO 2590 (2) Plants and Society  
EBIO 3010 (1-2) Teaching Biology  
EBIO 3040 (4) Conservation Biology  
EBIO 3080 (4) Evolutionary Biology  
EBIO 3110 (3) Population and Community Ecology  
EBIO 3170 (3) Mountain Ecology and Conservation  
EBIO 3175 (1) Arctic and Alpine Ecology Lab  
EBIO 3180 (3) Global Ecology  
EBIO 3190 (3) Tropical Marine Ecology  
EBIO 3240 (4) Animal Behavior  
EBIO 3270 (3) Ecosystem Ecology  
EBIO 3630 (4) Parasitology  
EBIO 3770 (4) Animal Diversity: Vertebrates  
EBIO 3850 (4) Animal Diversity: Invertebrates

EBIO 4020 (3) Stream Biology	EBIO 4500 (4) Plant Biodiversity and Evolution
EBIO 4030 (3) Limnology	EBIO 4510 (4) Plant Anatomy and Development
EBIO 4060 (3) Landscape Ecology	EBIO 4520 (4) Plant Systematics
EBIO 4090 (2) Coral Reef Ecology	EBIO 4530 (4) Functional Plant Biology
EBIO 4100 (3) Advanced Ecology	EBIO-4550 (4) Plant Eco-Evo-Devo
EBIO 4120 (2-4) Advanced Ecology	EBIO 4640 (2-4) Plant Field Studies
EBIO 4140 (3) Plant Ecology	EBIO 4660 (4) Insect Biology
EBIO 4150 (1-2) Techniques in Ecology	EBIO 4740 (3) Biology of Amphibians and Reptiles
EBIO 4160 (3) Introduction to Biogeochemistry	EBIO 4750 (4) Ornithology
EBIO 4175 (3) Scientific Basis for Ecosystem Management Public Lands	EBIO 4760 (4) Mammalogy
EBIO 4180 (3) Ecological Perspectives on Global Change	EBIO-4795 (3) Field Methods in Zoology and Botany
EBIO 4290 (3) Molecular Systematics and Evolution	
EBIO 4350 (1-4) Biological Field Studies	
EBIO 4410 (4) Biometry	
ENVS 1000 (4) Introduction to Environmental Studies	ENVS 3525 (3) Int Env Problem Analysis: Topical Cornerstones
ENVS/EBIO 3040 Conservation Biology	ENVS/ATOC 3600/GEOG 3601 Principles of Climate
ENVS/PHYS 3070 (3) Energy and the Environment	ENVS-3621 (3) Energy Policy and Society
ENVS/CVEN 3434 Introduction to Applied Ecology	ENVS 4050 (3) Field Studies in Environmental Sciences
ENVS 3520 (3) Energy and Climate Change: An Interdisciplinary Approach	ENVS/GEOL/EBIO 4160 Intro to Biogeochemistry*
ENVS 3521 (3) Climate Politics and Policy	ENVS 4795 (3) Field Methods in Zoology and Botany
ENVS/GEOL 4201 Biometeorology	
GEOG 1001 (4) Environ'l Systems 1- Climate & Vegetation *	GEOG 4110 (3) Sp.Topics: GIS in the Social and Natural Sciences
GEOG 1011 (4) Environ'l Systems 2 - Landscapes and Water *	GEOG/ENVS 4201 (3) Biometeorology *
GEOG 2053 (4) Mapping a Changing World	GEOG 4203 (4) Geographic Information Science: Modeling Applic
GEOG 3053 (3) Cartography: Visualization and Information Design	GEOG 4241 (4) Principles of Geomorphology *
GEOG 3251 (3) Mountain Geography *	GEOG 4251 (4) Fluvial Geomorphology *
GEOG 3301 (3) Analysis of Climate and Weather Observation *	GEOG 4303 (4) GIS: Programming for Spatial Analysis
GEOG 3351 (3) Biogeography	GEOG 4311 (3) Watershed Biogeochemistry
GEOG 3412 (3) Conservation Practice and Resource Management	GEOG 4321 (3-4) Snow Hydrology
GEOG 3601 (3) Principles of Climate *	GEOG 4331 (3-4) Mountain Climatology *
GEOG 3662 (3) Economic Geography	GEOG 4371 (3) Forest Geography: Principles and Dynamics
GEOG 3682 (3) Geography of International Development	GEOG 4401 (3) Soils Geography *
GEOG 4023 (3) Introduction to Quantitative Methods in Human Geography	GEOG 4501 (3) Water Resources & Water Management of Western US
GEOG 4043 (3) Cartography 2: Interactive & Multimedia Mapping	GEOG-4722 (3) Field Methods in Human Geography
GEOG 4093 (4) Remote Sensing of the Environment	GEOG-4732 (3) Population Geography
GEOG-4103 (4) Introduction to Geographic Information Science	
GEOL 1010 (3) Introduction to Geology 1 *	GEOL 3500 (3) Earth Resources and the Environment *
GEOL 1020 (3) Introduction to Earth History*	GEOL 3520 (3) Energy and Climate Change: An Interdisciplinary Approach
GEOL 1030 (1) Introduction to Geology Laboratory 1 * †	GEOL 3540 (3) Introduction to Petroleum Geology *
GEOL 1040 (3) Geology of Colorado *	GEOL 3720 (3) Evolution of Life: The Geological Record *
GEOL 1060 (3) Global Change--an Earth Science Perspective *	GEOL 3820 (3) The Fluid Earth *
GEOL-2001 (4) Planet Earth	GEOL 3950 (3) Natural Catastrophes & Geologic Hazards *
GEOL-2005 (4) Introduction to Earth Materials	GEOL 4060 (4) Oceanography
GEOL-2040 (3) The Search for Life in the Universe	GEOL 4093 (4) Remote Sensing of the Environment
GEOL 2100 (3) Environmental Geology *	GEOL 4130 (3) Principals of Geophysics *
GEOL 2700 (2) Introduction to Field Geology * †	GEOL 4160 (3) Introduction to Biogeochemistry *
GEOL 3010 (3) Introduction to Mineralogy * †	GEOL 4241 (4) Principles of Geomorphology *
GEOL 3020 (3) Petrology*	GEOL 4270 (3) Marine Chemistry and Geochemistry
GEOL 3030 (3) Introduction to Hydrogeology *	GEOL-4330 (3) Cosmochemistry
GEOL 3040 (3) Global Change: The Recent Geological Record *	GEOL 4474 (4) Vertebrate Paleontology
GEOL 3050 (2) GIS for Geologists *	GEOL 4550 (3) Petroleum Reservoir Characterization & Modeling
GEOL/ATOC 3070 (3) Introduction to Oceanography *	GEOL 4670 (3) Isotope Geology *
GEOL 3120 (4) Structural Geology *	GEOL 4711 (2) Igneous and Metamorphic Field Geology *
GEOL 3300 (3) Extraterrestrial Life	GEOL 4712 (2) Structural Field Geology *
GEOL 3320 (3) Introduction to Geochemistry *	GEOL 4714 (2) Field Geophysics *
GEOL 3410 (3) Paleobiology *	GEOL 4715 (2) Field Techniques in Hydrogeology*
GEOL 3430 (4) Sedimentology and Stratigraphy *	GEOL 4716 (2) Environmental Field Geochemistry * †
	GEOL 4717 (2) Field Seminar in Geology and Tectonics *
	GEOL-4721 (2) Field Methods in Active Tectonics
IPHY 2420 (3) Nutrition, Health and Performance	IPHY 3460 (5) Comparative Vertebrate Anatomy
IPHY 3060 (4) Cell Physiology	IPHY 3470 (3) Human Physiology 1
IPHY 3410 (3) Introduction to Human Anatomy	IPHY 3480 (3) Human Physiology 2
IPHY 3415 (2) Human Anatomy Laboratory	IPHY 3500 (2) Applied Clinical Research
IPHY 3430 (3) Introduction to Human Physiology	IPHY 3660 (3) Dynamics of Motor Learning
IPHY 3435 (2) Human Physiology Laboratory	IPHY 3800 (3) Forensic Biology
IPHY 3450 (5) Comparative Animal Physiology	IPHY 3810 (1) Forensic Biology Laboratory

IPHY 4200 (3) Physiological Genetics and Genomics  
IPHY 4440 (3) Endocrinology  
IPHY 4470 (3) Biology of Human Reproduction  
IPHY 4480 (3) Comparative Reproduction  
IPHY 4540 (5) Biomechanics

MATH 3110 (3) Introduction to Theory of Numbers  
MATH-3120 (3) Functions and Modeling  
MATH 3140 (3) Abstract Algebra 1  
MATH 3170 (3) Combinatorics 1  
MATH 3210 (3) Euclidean and Non-Euclidean Geometries  
MATH 4000 (3) Foundations of Mathematics  
MATH 4001 (3) Analysis II  
MATH 4120 (3) Introduction to Operations Research  
MATH 4140 (3) Abstract Algebra 2  
MATH 4200 (3) Introduction to Topology  
MATH 4210 (3) Euclidean and Non-Euclidean Geometry II

MCDB 1041 (3) Fundamentals of Human Genetics  
MCDB-1043 (1) Exploring Genetics Laboratory  
MCDB 1150 (3) Introduction to Cellular and Molecular Biology  
MCDB 1151 (1) Introduction to Cell and Molecular Biology Lab  
MCDB-1152 (1) Problem Solving Co-Seminar for Introduction to Molecular and Cellular Biology  
MCDB 1161 (2) From Dirt to DNA: Phage Genomics Laboratory I  
MCDB 2161 (2) From DNA to Genes, Phage Genomics Laboratory II  
MCDB 2150 (3) Principles of Genetics  
MCDB 2151 (1) Principles of Genetics Laboratory  
MCDB 3135 (3) Molecular Cell Biology I  
MCDB 3140 (2) Cell Biology Laboratory  
MCDB 3150 (3) Biology of the Cancer Cell  
MCDB 3280 (3) Molecular Cell Physiology  
MCDB 3330 (3) Evolution and Creationism  
MCDB 3350 (3) Fertility, Sterility, and Early Mammalian Development  
MCDB 3501 (3) Structural Methods for Biological Macromolecules  
MCDB 3650 (3) The Brain - From Molecules to Behavior  
MCDB 3651 (3) The Brain: Dysfunction to Disease  
MCDB 3990 (3) Introduction to Systems Biology for Biologists  
MCDB 4111 (3) Experimental Design & Research in Cell & Molec Bio  
MCDB 4201 (3) From Bench to Bedside: The Role of Science in Medicine  
MCDB 4300 (3) Immunology  
MCDB 4314 (3) Algorithms for Molecular Biology

PHYS 1230 (3) Light and Color for Nonscientists  
PHYS 1240 (3) Sound and Music  
PHYS 1300 (3) Experiment in Physics  
PHYS 2130 (3) General Physics 3  
PHYS-2150 (1) Experimental Physics  
PHYS 2170 (3) Foundations of Modern Physics  
PHYS 2210 (3) Classical Mechanics and Math Methods 1  
PHYS-2810 (1-3) Special Topics in Physics  
PHYS-3000 (3) Science and Public Policy  
PHYS/ENVS 3070 (3) Energy and the Environment  
PHYS 3210 (3) Classical Mechanics and Mathematical Methods 2  
PHYS 3220 (3) Quantum Mechanics and Atomic Physics 1

IPHY 4600 (4) Immunology  
IPHY 4650 (5) Exercise Physiology  
IPHY 4720 (4) Neurophysiology  
IPHY 4740 (3) Theory of Motor Skills Learning

MATH 4230 (3) Geometry of Curves and Surfaces  
MATH 4330 (3) Fourier Analysis  
MATH 4440 (3) Mathematics of Coding and Cryptography  
MATH 4450 (3) Introduction to Complex Variables  
MATH 4470 (3) Partial Differential Equations 1  
MATH 4510 (3) Introduction to Probability Theory  
MATH 4520 (3) Introduction to Mathematical Statistics  
MATH 4540 (3) Introduction to Time Series  
MATH 4650 (3) Intermediate Numerical Analysis 1  
MATH 4660 (3) Intermediate Numerical Analysis 2  
MATH 4730 (3) Set Theory

MCDB 4330 (3) Bacterial Disease Mechanisms  
MCDB 4350 (3) Microbial Diversity and the Biosphere  
MCDB 4361 (3) Evolution and Development  
MCDB 4410 (3) Human Molecular Genetics  
MCDB 4422 (3) Molecular Biology of Free Radicals: Role(s) in Oxidative Stress, Signaling, Disease, Aging  
MCDB 4425 (3) Cellular Stress Responses: Molecular Mechanisms, Physiology, and Human Diseases  
MCDB 4426 (3) Cell Signaling and Developmental Regulation  
MCDB 4427 (3) Biology of the Visual System  
MCDB 4441 (4) Animal Developmental Diversity  
MCDB 4444 (3) Cellular Basis of Disease  
MCDB 4471 (3) Mechanisms of Gene Regulation in Eukaryotes  
MCDB 4520 (3) Bioinformatics and Genomics  
MCDB 4550 (3) Cells, Molecules and Tissues: A Biophysical Approach  
MCDB 4615 (3) Biology of Stem Cells  
MCDB 4621 (3) Genome Databases: Mining and Management  
MCDB 4650 (3) Developmental Biology  
MCDB 4680 (3) Mechanisms of Aging  
MCDB 4750 (3) Animal Virology  
MCDB 4777 (3) Molecular Neurobiology  
MCDB 4790 (3) Experimental Embryology  
MCDB 4810 (3) Insane in the Membrane: Biol/Biophysics of Membrane  
MCDB 4811 (3-4) Teaching and Learning Biology  
MCDB 4970 (3) Seminar on Physical Methods in Biology

PHYS 3310 (3) Principles of Electricity and Magnetism 1  
PHYS 3320 (3) Principles of Electricity and Magnetism 2  
PHYS 3330 (2) Electronics for the Physical Sciences  
PHYS 3340 (3) Introductory Research in Optical Physics  
PHYS 4130 (2) Biological Electron Microscopy  
PHYS 4150 (3) Plasma Physics  
PHYS 4230 (3) Thermodynamics and Statistical Mechanics  
PHYS 4340 (3) Introduction to Solid State Physics  
PHYS 4410 (3) Quantum Mechanics and Atomic Physics 2  
PHYS 4420 (3) Nuclear and Particle Physics  
PHYS 4510 (3) Optics  
PHYS 4970 (3) Seminar on Physical Methods in Biology

AREN 3060 (3) Environmental Systems for Buildings 2  
AREN 3140 (3) Illumination Laboratory  
AREN 3540 (3) Illumination 1  
AREN 4010 (3) HVAC System Modeling and Control  
AREN 4035 (3) Architectural Structures 1

## College of Engineering and Applied Science

AREN 1027 (3) Engineering Drawing (formerly AREN 1017)  
AREN-1037 (3) Building Information Modeling  
AREN 2050 (3) Building Materials and Systems  
AREN 3010 (3) Mechanical Systems for Buildings  
AREN 3050 (3) Environmental Systems for Buildings 1

AREN 4045 (3) Architectural Structures 2	AREN 4550 (3) Illumination 2
AREN 4110 (3) HVAC Design	AREN 4560 (3) Luminous Radiative Transfer
AREN 4130 (3) Optical Design for Illumination and Solid State Lighting	AREN 4570 (3) Building Electrical Systems Design 1
AREN 4315 (2) Design of Masonry Structures	AREN 4580 (3) Daylighting
AREN 4317 (5) Architectural Engineering Design	AREN 4590 (3) Computer Graphics in Lighting Engineering
AREN 4506 (3) Project Management 1	AREN 4606 (3) Project Management 2: Project Execution and Control
AREN 4530 (3) Advanced Lighting Design	AREN 4830 (1-3) Special Topics for Seniors/Grads.
AREN 4540 (3) Exterior Lighting Systems	AREN 5020 (3) Building Energy Audits
ASEN 3111 (4) Aerodynamics	ASEN 4123 (3) Vibration Analysis
ASEN 3112 (4) Structures	ASEN 4128 (3) Human Factors in Engineering and Design
ASEN 3116 (3) Introduction to Biomedical Engineering	ASEN 4138 (3) Aircraft Design
ASEN 3128 (4) Aircraft Dynamics	ASEN/ATOC 4215 (3) Oceanography *
ASEN 3200 (4) Orbital Mechanics/Attitude Dynamics & Control	ASEN 4216 (3) Neural Signals & Functional Brain Imaging
ASEN 3300 (4) Aerospace Electronics and Communications	ASEN 4218 (3) Large Space Structures Design
ASEN 3930 (6) Aerospace Engineering Cooperative Education	ASEN 4222 (3) Materials Science for Composite Manufacturing
ASEN 4010 (3) Introduction to Space Dynamics	ASEN 4238 (3) Computer Aided Control System Design
ASEN 4012 (3) Aerospace Materials	ASEN 4248 (3) Computer Aided Control System Design 2
ASEN 4013 (3) Foundations of Propulsion	ASEN 4255 (3) Environmental Aerodynamics
ASEN 4090 (3) Global Positioning Systems Applications	ASEN 4338 (3) Computer Analysis of Structures
ASEN 4114 (3) Automatic Control Systems	ASEN 4426 (3) Neural Systems and Physiological Control
CHEN 2810 (3) Biology for Engineers	CHEN 4570 (4) Instrumentation and Process Control
CHEN 3130 (2) Chemical Engineering Lab 1	CHEN 4630 (1) Intellectual Property Law and Engineering
CHEN 3220 (3) Separations and Mass Transfer	CHEN 4650 (3) Particle Technology
CHEN 3930 (6) Chemical Engineering Cooperative Education	CHEN 4670 (3) Environmental Separations
CHEN 4130 (2) Chemical Engineering Lab 2	CHEN 4801 (3) Pharmaceutical Biotechnology
CHEN 4330 (3) Reaction Kinetics	CHEN 4805 (3) Biomaterials
CHEN 4440 (3) Chemical Engineering Materials	CHEN 4810 (2) Biological Engineering Laboratory
CHEN 4450 (3) Polymer Chemistry	CHEN 4820 (3) Biochemical Separations
CHEN 4460 (3) Polymer Engineering	CHEN 4830 (3) Chemical Engineering Biokinetics
CHEN 4520 (3) Chemical Process Synthesis.	CHEN 4836 (3) Nanomaterials
CHEN 4521 (3) Physical Chemistry for Engineers	CHEN 4838 (3) Sp Top: Energy Fundamentals
CHEN 4530 (2) Chemical Engineering Design Project	
CVEN 2012 (3) Introduction to Geomatics	CVEN 4323 (3) Water Resource Engineering Design
CVEN 3022 (3) Construction Surveying	CVEN 4353 (3) Groundwater Engineering
CVEN 3032 (3) Photogrammetry	CVEN 4383 (3) Groundwater Modeling
CVEN 3111 (3) Analytical Mechanics 2	CVEN 4554 (3) Fundamentals of Air Quality Management
CVEN 3141 (2) Engineering Materials Lab	CVEN 4474 (3) Hazardous and Industrial Waste Mgmt
CVEN 3161 (3) Mechanics of Materials 1	CVEN 4511 (3) Intro Finite Elements
CVEN 3246 (3) Introduction to Construction	CVEN 4525 (3) Matrix Structural Analysis
CVEN 3256 (3) Construction Equipment and Methods	CVEN 4537 (3) Numerical Methods in Civil Engineering
CVEN 3323 (3) Hydraulic Engineering	CVEN 4545 (3) Steel Design
CVEN 3424 (3) Water and Wastewater Treatment	CVEN 4555 (3) Reinforced Concrete Design
CVEN 3434 (3) Introduction to Applied Ecology	CVEN 4565 (2) Timber Design
CVEN 3525 (3) Structural Analysis	CVEN 4700 (3) Sustainability and the Built Environment
CVEN 3602 (3) Transportation Systems	CVEN 4718 (3) Mechanics and Dynamics of Glaciers
CVEN 3698 (3) Engineering Geology *	CVEN 4728 (3) Foundation Engineering
CVEN 3708 (3) Geotechnical Engineering 1 * †	CVEN 4838 (3) Sp Top: Sustainable Community Development 1
CVEN 3718 (3) Geotechnical Engineering 2 *	CVEN 5393 (3) Water Resources Development & Management
CVEN 4161 (3) Mechanics of Materials 2	
CSCI 1220 (4) Virtual Worlds: An Introduction to Computer Science	CSCI 3287 (3) Database and Information Systems
CSCI 1240 (3) The Computational World	CSCI 3308 (3) Software Development Methods and Tools
CSCI 1300 (4) Computer Science 1: Starting Computing	CSCI 3434 (3) Theory of Computation
CSCI 1404 (2) Discrete Methods	CSCI 3656 (3) Numerical Computation
CSCI 2270 (4) Computer Science 2: Data Structures	CSCI 3702 (3) Cognitive Science
CSCI 2300 (4) Fund of Comp Sci	CSCI 3753 (4) Operating Systems
CSCI 2320 (4) Fund Computer Science 2	CSCI 4000 (3) Entrepreneurship in Computing
CSCI 2400 (4) Computer Systems	CSCI 4113 (3) UNIX System Administration
CSCI 2820 (3) Linear Algebra with Computer Science Applications	CSCI 4123 (4) Network Laboratory
CSCI 2824 (3) Discrete Structures	CSCI 4133 (4) Security Laboratory
CSCI 2830 (1-3) Special Topics in Computer Science	CSCI-4143 (3) Principles of Telecommunications Policy
CSCI 3002 (3) HCC Foundations/User-Centered Design and Dev 1	CSCI 4202 (3) Artificial Intelligence 2
CSCI 3104 (4) Algorithms	CSCI 4229 (3) Computer Graphics
CSCI 3112 (1-3) Human-Centered Computing Professional Dev	CSCI 4273 (3) Network Systems
CSCI 3155 (4) Principles of Programming Languages	CSCI-4302 (3) Advanced Robotics
CSCI 3202 (3) Introduction to Artificial Intelligence	

CSCI 4308 (4) Software Engineering Project 1	CSCI 4555 (3) Introduction to Compiler Construction
CSCI-4314 (3) Algorithms for Molecular Biology	CSCI 4576 (4) High Performance Scientific Computing 1
CSCI 4317 (3) Genome Databases: Mining and Management	CSCI 4586 (4) High Performance Scientific Computing 2
CSCI 4318 (4) Software Engineering Project 2	CSCI 4593 (3) Computer Organization
CSCI 4446 (3) Chaotic Dynamics	CSCI 4753 (3) Computer Performance Modeling
CSCI 4448 (3) Object Oriented Analysis and Design	CSCI 4809 (3) Computer Animation
CSCI 4473 (3) Network Security	CSCI 4810 (1) Seminar in Computational Biology/Health Informatics
CSCI-4502 (3) Data Mining	CSCI-4830 (1-3) Special Topics in Computer Science
ECEN 1310 (4) C and MATLAB Programming for Electrical and Computer Engineers	ECEN 4224 (3) High Speed Digital Design
ECEN 1400 (3) Introduction to Digital and Analog Electronics	ECEN 4242 (3) Communication Theory
ECEN 2060 (3) Sp Top: Renewable Energy	ECEN 4324 (3) Fundamentals of Microsystem Packaging
ECEN 2250 (3) Introduction to Circuits and Electronics	ECEN 4341 (3) Bioelectromagnetics
ECEN 2260 (3) Circuits as Systems	ECEN 4375 (3) Microstructures Laboratory
ECEN 2270 (3) Electronics Design Lab	ECEN 4423 (3) Chaotic Dynamics
ECEN 2350 (3) Digital Logic	ECEN 4517 (2) Power Electronics Laboratory
ECEN 2410 (3) Renewable Sources and Efficient Electrical Energy Systems	ECEN 4532 (3) Digital Signal Processing Laboratory
ECEN 2703 (3) Discrete Mathematics for Computer Engineers	ECEN 4553 (3) Introduction to Compiler Construction
ECEN 3010 (3) Circuits and Electronics for Mechanical Engineers	ECEN 4555 (3) Principles of Energy Systems and Devices
ECEN 3030 (3) Electrical/Electronic Circuits Non-Major	ECEN 4583 (3) Software System Development
ECEN 3170 (3) Electromagnetic Energy Conservation 1	ECEN 4593 (3) Computer Organization
ECEN 3002 to 3005 (3-5) Special Topics	ECEN 4606 (3) Undergraduate Optics Laboratory
ECEN 3250 (3) Microelectronics	ECEN 4613 (3) Embedded System Design
ECEN 3300 (5) Linear Systems	ECEN 4616 (3) Optoelectric System Design
ECEN 3320 (3) Semiconductor Devices	ECEN 4623 (3) Real Time Embedded Systems
ECEN-3350 (3) Programming Digital Systems	ECEN 4632 (3) Introduction to Digital Filtering
ECEN-3360 (3) Digital Design Laboratory	ECEN 4633 (2) Hybrid Embedded System
ECEN 3400 (5) Electromagnetic Fields and Waves	ECEN 4634 (2) Microwave and RF Laboratory
ECEN 3410 (3) Electromagnetic Waves and transmission	ECEN 4638 (2) Control Systems Laboratory
ECEN 3810 (3) Introduction to Probability Theory	ECEN-4643 (3) SW Engineering of Concurrent Systems
ECEN 4021 (3) Sp Top: Design Med Device	ECEN 4652 (2) Communication Laboratory
ECEN 4106 (3) Photonics	ECEN-4653 (3) Real-Time Digital Media
ECEN 4116 (3) Introduction to Optical Communications	ECEN 4753 (3) Computer Performance Modeling
ECEN 4120 (3) Neural Network Design	ECEN 4797 (3) Introduction to Power Electronics
ECEN 4138 (3) Control Systems Analysis	ECEN 4811 (3) Neural Signals & Functional Brain Imaging
ECEN 4167 (3) Electromagnetic Energy Conservation 2	ECEN 4821 (3) Neural Systems and Physiological Control
	ECEN 4827 (3) Analog IC Design
EMEN 4030 (3) Project Management Systems	ECEN 4831 (3) Brains, Minds, Computers
EMEN 4050 (3) Leadership and Professional Skills	
EMEN 4200 (3) Technology and Entrepreneurship for the Developing World	ENEN 4600 (3) Energy Engineering Projects
EMEN 4800 (3) Technology Ventures and Marketing	EVEN 2840 (1-3) Independent Study
EMEN 4825 (3) Entrepreneurial Business Plan Preparation	EVEN 4100 (3) Environmental Sampling and Analysis * †
EMEN 4830 (3) Entrepreneurial Management and Leadership	EVEN 4830 (3) Environmental Engineering Process Modeling
	EVEN 4840 (1-3) Independent Study
	EVEN 4980-4990 (6) Senior Thesis
GEEN 3400 (3) Invention and Innovation	MCEN 4124 (3) Mechanical Behavior of Materials
GEEN 4830 (3) Solar Thermal Power/Plants	MCEN 4141 (3) Indoor Air Pollution
	MCEN 4151 (3) Flow Visualization
MCEN 1025 (3) Computer-Aided Design and Fabrication	MCEN 4152 (3) Introduction to Combustion
MCEN 1208 (3) Sp Top: Sustainable Energy	MCEN 4162 (3) Energy Conversion
MCEN 2024 (3) Materials Science	MCEN 4173 (3) Finite Element Analysis
MCEN 2063 (3) Mechanics of Solids	MCEN 4174 (3) Failure of Engineering Materials
MCEN 3025 (3) Component Design	MCEN 4183 (3) Mechanics of Composite Materials
MCEN 3030 (3) Computational Methods	MCEN 4228 (3) Sp Top: Energy Conservation and Storage
MCEN 4026 (3) Manufacturing Processes and Systems	MCEN 4228 (3) Sp Top: Environmental Modeling
MCEN 4037 (3) Measurements Lab	MCEN 4228 (3) Sp Top: Renewable and Sustainable Energy
MCEN 4115 (3) Mechatronics and Robotics I	MCEN 4228 (3) Sp Top: Wind Energy
MCEN 4117 (3) Anatomy and Physiology for Engineers	MCEN 4228 (3) Sp Top: Air Measurement
MCEN 4120 (3) Engineering Statistics	
MCEN 4123 (3) Vibration Analysis	