



Department of Chemical Engineering

Technical Elective Information

The following list provides approved courses that meet the requirements for **Technical Elective I, II, III, IV**. Students pursuing a program specialization must select electives in accordance with the particular program specialization requirements. This information is available from the Academic Advisor. Note: At least 3 hours of technical electives must be taken from the Engineering category to satisfy ABET accreditation requirements.

Engineering

Aerospace Engineering	AERO-3110 AERODYNAMICS
Chemical Engineering	CHEN-3090 PULP AND PAPER TECHNOLOGY CHEN-3400 CREATIVITY AND CRITICAL THINKING CHEN-4100 PULP AND PAPER PROCESSING LAB CHEN-4160 PROCESS DYNAMICS AND CONTROL CHEN-4180 ADV PROCESS CONTROL CHEN-4560 PULP & PAPER PROCESS SIMULATION CHEN-4630 INTRODUCTORY TRANSPORT PHENOMENA CHEN-4930 DIRECTED STUDIES CHEN-4970 SPECIAL TOPICS IN CHEMICAL ENG CHEN-4980 UNDERGRADUATE RESEARCH CHEN-5120 SURFACE & COLLOID SCIENCE CHEN-5410 MACROMOLECULAR SCIENCE AND ENGINEERING CHEN-5420 POLYMER CHEMICAL ENGINEERING CHEN-5430 BUSINESS ASPECTS OF CHEMICAL ENG CHEN-5440 ELECTROCHEMICAL ENGINEERING CHEN-5650 HAZARDOUS MATERIALS MNGT & ENG CHEN-5660 MACROSCALE ASSEMBLY & APPLICATIONS OF NANOMATERIALS CHEN-5670 POLLUTION PREVENTION ENGINEERING CHEN-5700 ADVANCED SEPARATION PROCESSES CHEN-5800 BIOCHEMICAL ENGINEERING CHEN-5810 BIOMEDICAL ENGINEERING CHEN-5970 ADV SPECIAL TOPICS IN CHEMICAL ENG
Biosystems Engineering	BSEN-3240 PROCESS ENGINEERING IN BIOSYSTEMS BSEN-5550 PRINCIPLES OF FOOD ENGR TECH
Civil Engineering	CIVL-3230 ENVIRONMENTAL ENGINEERING CIVL-4230 URBAN HYDRAULIC SYSTEM DESIGN CIVL-5240 AIR POLLUTION
Computer Science and Software Engineering	COMP-3000 OBJECT ORIENTED PROG ENG & SCI
Engineering	ENGR-2050 STATICS ENGR-2070 MECHANICS OF MATERIALS
Electrical Engineering	ELEC-2020 ELECTRICAL ENGINEERING LAB II ELEC-2010 ELECTRICAL ENGINEERING LAB I ELEC-2110 ELECTRIC CIRCUIT ANALYSIS ELEC-2120 LINEAR SIGNALS & SYSTEMS ANALYSIS ELEC-2200 DIGITAL LOGIC CIRCUITS ELEC-2210 DIGITAL ELECTRONICS ELEC-2220 COMPUTER SYSTEMS ELEC-3500 CONTROL SYSTEMS ELEC-3820 INDUSTRIAL INSTRUMENTATION
Industrial and Systems Engineering	INSY-3020 OCCUPATIONAL SAFETY & ERGONOMICS INSY-4330 STAT QUALITY DESIGN & CONTROL INSY-5010 SAFETY ENGINEERING I
Materials Engineering	MATL-3200 ENGINEERING MATERIALS - POLYMERS MATL-4500 MATERIALS PROPERTIES & SELECTION MATL-3201 POLYMER & COMPOSITES LABORATORY MATL-5100 THERMODYN OF MATERIALS SYSTEMS
Textile Engineering	PFEN-3100 FUNDAMENTALS OF POLYMERS PFEN-3200 POLYMER PROCESSING PFEN-3500 STRUCTURE & PROPERTIES OF POLYMERS & FIBERS

Science

Biology	BIOL-1030 ORGANISMAL BIOLOGY BIOL-2500 HUMAN ANATOMY & PHYSIOLOGY I BIOL-2510 HUMAN ANATOMY & PHYSIOLOGY II BIOL-3000 GENETICS BIOL-3200 GENERAL MICROBIOLOGY BIOL-4100 CELL BIOLOGY BIOL-4101 CELL BIOLOGY LABORATORY BIOL-4220 INTRODUCTORY MOLECULAR GENETICS BIOL-4400 CLINICAL PHYSIOLOGY BIOL-5600 MAMMALIAN PHYSIOLOGY
Chemistry	CHEM-4070 PHYSICAL CHEMISTRY I CHEM-4071 PHYSICAL CHEMISTRY I LABORATORY CHEM-4080 PHYSICAL CHEMISTRY II CHEM-4081 PHYSICAL CHEMISTRY II LABORATORY CHEM-4100 INORGANIC CHEMISTRY I CHEM-4101 INORGANIC CHEMISTRY LABORATORY I CHEM-4130 INSTRUMENTAL ANALYSIS CHEM-4131 INSTRUMENTAL ANALYSIS LAB
Biochemistry	BCHE-5180 BIOCHEMISTRY I BCHE-5181 BIOCHEMISTRY I LABORATORY
Forest Products	FOPR-3440 ENVIRONMENTAL LAW
Mathematics	MATH-2660 TOPICS IN LINEAR ALGEBRA
Physics	PHYS-2200 INTRO QUANT PHYSICS & RELATIVITY

Other

Computer Science and Software Engineering	COMP-2000 NETWORK PROGRAM W/HTML AND JAVA
Economics	ECON-2030 PRIN OF MACROECONOMICS ECON-3020 INTERMEDIATE MICROECONOMICS
English	ENGL-3040 TECHNICAL WRITING ENGL-3080 BUSINESS WRITING ENGL-4000 ADVANCED COMPOSITION
Finance	ACCT-2110/2810 PRINCIPLES OF FINANCIAL ACCT ACCT-2210 PRINCIPLES OF MANAGERIAL ACCT FINC-3610/3810 PRINCIPLES OF BUSINESS FINANCE
Management	MNGT-3090 ANALYSIS & DESIGN OF BUSINESS IS MNGT-3100/3810 PRINCIPLES OF MANAGEMENT MNGT-3140 INTRO TO MIS MNGT-3250 INTRO TO ENTERPRISE OPER SYSTEMS MNGT-4140 ENTREPRENEURSHIP MNGT-4740 QUALITY MANAGEMENT SYSTEMS MNGT-4890 STRATEGIC ENVIRONMENTAL MNGT
Marketing	MKTG-3310/3810 PRINCIPLES OF MARKETING
Materials Engineering	MATL-2100 INTRO TO MATERIAL SCI
Statistics	STAT-3010 STATS FOR ENGINEERS & SCIENTISTS STAT-3600 PROBABILITY & STATISTICS I STAT-3610 PROBABILITY & STATISTICS II

The following list provides approved courses that meet the 3-semester credit hour **Advanced Chemistry Elective** requirement.

Advanced Chemistry Elective (3)

Biochemistry	BCHE-5180 BIOCHEMISTRY I
Chemistry	CHEM-4070 PHYSICAL CHEMISTRY I CHEM-4080 PHYSICAL CHEMISTRY II