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 | AMLG-3050 AVIATION METEOROLOGY  
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 MACROSSCALE 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 THERMAL PROCESS OPS IN BIOSYS  
BSEN-5550 PRINCIPLES OF FOOD ENGR TECH |
| Civil Engineering      | CIVL-3230 INTRO ENVIRONMENTAL ENGINEERING  
CIVL-4230 URBAN HYDRAULIC SYSTEM DESIGN  
CIVL-5240 AIR POLLUTION |
| Computer Science and Software Engineering | COMP-2000 NETWORK PROGRAM W/HTML AND JAVA  
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 ANLYS  
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 |
| Material Engineering   | MATL-2100 INTRO TO MATERIAL SCI  
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

| 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  |

| 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  |
|              | CHEM-4070 PHYSICAL CHEMISTRY I  
|              | CHEM-4080 PHYSICAL CHEMISTRY II  |