

# PRE-ENGINEERING



Toward a Bachelor of Science Degree

Minimum 62 hours

**Transfer Curriculum • Associate in Science Degree • Minimum 2.0 OGPA • Major Code: DAS**

This curriculum is designed for transfer to four year institutions for this major. Consult the website of the four year institution where you plan to transfer, regarding specific course needs, requirements and deadlines.

## FIRST YEAR

Fall Semester		Credit Hrs
<b>ENG 121</b>	Rhetoric & Composition I	3
<b>MATH 161</b>	Pre-Calculus	4
<b>CHEM 121</b>	General Chemistry I	5
<b>BIOLOGY*</b> (See Below)		4
<b>GRAP 121**</b>	Engineering Graphics I	3
Total Hours		19

Spring Semester		Credit Hrs
<b>ENG 122</b>	Rhetoric & Composition II	3
<b>MATH 162</b>	Calculus I	5
<b>CHEM 122</b>	General Chemistry II	5
<b>FINE ARTS</b> (See Below)		3
<b>ECON 122</b>	Intro to Microeconomics	3
Total Hours		19

Summer Term		Credit Hrs
<b>COM 121</b>	Principles of Speaking	3
<b>SOCIAL AND BEHAVIORAL SCIENCES</b> (See Below)		3
Total Hours		6

\*\*Needed for Mechanical and Mining majors only.

\*\*\*Not required for Computer or Electrical majors.

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The bolded classes on this curriculum guide indicate the minimum a student must complete in order to receive an Associate degree. See advisor for specific transfer information.

**Suggested electives for BioEngineer Majors:** BTC 121-3 Scientific Literature for Biotech, BTC 221-4 Introduction to Biotechnology, BTC 241-3 Immunology for Biotechnology, or BTC 242-3 Cell & Molecular Biology

**BIOLOGY (Choose one):** BIOL 121-4 Biology, BOT 121-4 Botany, BIOL 141-4 Environmental Science, BIOL 221-4 General Biology.

**FINE ARTS (Choose one):** ART 121-3 Art Appreciation, MUS 121-3 Music Appreciation, THTR 121-3 Introduction to Theater.

**SOCIAL AND BEHAVIORAL SCIENCE (Choose one):** PSYC 121-3 Intro Psychology, SOC 121-3 Introductory Sociology.

## SECOND YEAR

Fall Semester		Credit Hrs
<b>MATH 221</b>	Calculus II	5
<b>PHYS 221</b>	General Physics I	5
<b>PHYS 241***</b>	Statics	3
<b>MATH 165****</b>	Scientific Programming	3
<b>PHIL 122</b>	Fundamentals of Logic	3
Total Hours		19

Spring Semester		Credit Hrs
<b>MATH 222</b>	Calculus III	5
<b>PHYS 222</b>	General Physics II	5
<b>PHYS 242***</b>	Dynamics	3
<b>MATH 225</b>	Differential Equations	3
Total Hours		16

**SUGGESTION:** It is suggested that students take courses during the summer before or after their first year to lessen their coursework during the Fall and Spring semesters.

### Career Opportunities:

Engineering Specialties: Civil (Planning, Designing and Construction of Buildings, Bridges, Dams, Roads, Airports, Water and Wastewater Treatment Facilities, Water Distribution Systems, and Pollution Control Systems); Computer (Designing, Construction, and Operation of Computer Systems. Can Specialize in Digital Systems, Operating Systems, Computer Networks, and Software.); Electrical (All Aspects of Computerized and Electrical Devices and Systems, and the use of Electricity for Power Plants and Electrical Companies); Mechanical (Planning, Designing, and Construction of Machines, Engines, and Motors for Manufacturing, Biomed, Robotics, Automotive, and Air-Conditioning and Refrigeration.) and Mining (Locate, Appraise, and Remove Minerals; Design of Mines Including Construction and Transportation Systems.)

### Major Employers:

Architectural, Construction, Manufacturing, Engineering and Surveying Firms, Petroleum and Mining Companies, Consulting Firms, Government Agencies.