Description/Objective:

The Department of Engineering offers the Bachelor of Science degree in composite materials engineering. Composites represent a new group of manufactured materials. These lightweight materials, which have high strength and stiffness, are formed by combining reinforcing fibers in a polymer, ceramic or metal matrix. Over the past two decades, the use of composites has grown significantly in the following industries: aerospace, automotive, biotechnology, construction, electronics, marine, and sporting goods. The future for people educated in the engineering of composite materials is bright.

The Composite Materials Engineering (CME) Program has been developed to meet the engineering needs of the composites industry and is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

The CME Program is the only accredited undergraduate program in the United States that offers a Bachelor of Science degree in composite materials engineering. Majors in the program may choose to focus on the design, analysis, and manufacture of composite structures (mechanical focus); or on the development, processing, and chemistry of the materials used in composites including fibers, matrices and fiber/matrix systems (chemical focus).

Career Opportunities:

Graduates from this program will be prepared to practice engineering at a professional level and enter the composites industry directly into positions that provide opportunities for professional growth. Graduates also will be prepared to enter graduate-level programs in composite materials and other related engineering disciplines.

High School Background:

Recommended high school preparation includes two years of algebra, one year of geometry, one-half year of trigonometry, one-half year of college algebra, as well as one
year each of physics and chemistry. Without this background, it is unlikely a student will complete the degree requirements in four years. In addition, courses in industrial technology will be helpful.

**Engineering Courses Approved for University Studies:**

<table>
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<tr>
<th>U Studies-Science &amp; Social Policy</th>
<th>102</th>
<th>Intro to Engineering</th>
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</table>

**Department Programs:**

B.S. Major: Composite Materials Engineering

**Declaring an Engineering Major:**

Declaration of an Engineering major can be done by completing the Declaration of Major form at anytime. However, admission to the Composite Materials Engineering Program is granted to students by the Engineering Admissions Committee only upon completion of required lower division courses and achievement of certain academic standards.

**First-Year Sample Program:**

**Fall Semester**

- **ENGR 102** Introduction to Engineering 2 cr.
- **MATH 160** Calculus I 4 cr.
- **CHEM 212** Principles of Chemistry I 4 cr.
- **ENG 111** College Reading & Writing 4 cr.
- University Studies 3 cr.

**Spring Semester**

- **CHEM 213** Principles of Chemistry II 4 cr.
- **ENGR 182** Engineering Graphics & Design 2 cr.
- **MATH 165** Calculus II 4 cr.
- **PHYS 221** University Physics I 4 cr.
- **CMST 191** Fundamentals of Speech Communication 3 cr.