Polymer and Fiber Engineering

Bachelor of Polymer and Fiber Engineering

Polymers and fibers are high performance materials utilized in such diverse fields as plastics, elastomers (rubber), adhesives, surface coatings (paints), films, paper, packaging, insulation, filtration, aerospace, automotive, biomedical, composite, construction, environmental, industrial, marine, nonwoven, recreational, and safety materials.

Polymer and fiber engineering prepares graduates to work in research and development, product development, process engineering, composite engineering, quality engineering, industrial engineering, or technical sales; or to proceed to advanced studies in engineering, science, medicine, law, computer, business, or related fields.

Research and instruction in polymer and fiber engineering includes:

- Polymer synthesis and processing.
- Characterization and evaluation of structure and properties of polymeric materials using advanced techniques and state-of-the-art instrumentation.
- Modeling of structure-property-performance relationships emphasizing correlation of properties with the structure across nano-, micro-, and macro-length scales.
- Design, analysis, engineering, and assembly of polymeric fibrous materials into advanced engineered materials with novel compositions and tailored microstructures.
- Product, mold, and die design.

A solid foundation in mathematics, chemistry, and physics is applied in engineering and major courses during junior and senior years. Engineering design is integrated throughout the curriculum in major courses, laboratories, and a capstone design project which is completed during the senior year.

To accommodate the broad range of polymer and fiber opportunities, the undergraduate program offers two options leading to the bachelor of polymer and fiber engineering. The polymer option emphasizes polymer characterization, processing, and chemistry. The fiber option emphasizes the mechanics of composite materials and other fibrous structures.

Graduates will be actively engaged in one or more of the following:

The practice of engineering:

- Evidence of increasing responsibilities in the form of promotions, management or leadership duties, or other professional activities while employed in industrial, governmental, educational or consulting positions.
- Evidence of recognitions and awards.
- Evidence of contributing to their chosen field of practice through the development and dissemination of technical knowledge, presentations, publications, patents, or other means.
- Evidence of meeting professional responsibilities in the form of mentoring, professional society activities, peer review, editorial work, or similar activities.
- The acquisition of new knowledge and skills.
- Evidence of pursuit of an advanced degree.
- Evidence of participation in ongoing professional development activities.
- Activities which meet their ethical responsibilities for public service:
  - Evidence of involvement in community service.
  - Evidence of involvement in K-12 education.
  - Evidence of providing input to policy makers.

Major

- Polymer and Fiber Engineering (Fiber Option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofpolymerandfiberengineering/polymerandfiberengineering-fiberoption_major)
- Polymer and Fiber Engineering (Polymer Option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofpolymerandfiberengineering/polymerandfiberengineering-polymeroption_major)