

# Textile Engineering Program

---

Textile Building/Centennial Campus, Room 3270

The Textile Engineering (TE) Program at North Carolina State University is administered jointly by the College of Textiles and the College of Engineering and is an interdisciplinary curriculum drawing on diverse science and engineering principles. Textile engineering students develop a unique background, through undergraduate research, summer intern experiences, and design projects ranging from artificial blood vessel development to the design of novel high-tech sporting equipment. Textile engineers also design computer information systems that can integrate a worldwide distribution program eliminating a company's reliance on regional stockpiles or streamline an industrial process using Six Sigma quality saving a company millions of dollars. The program offers small class sizes with personal attention from faculty. With the focus on interdisciplinary research, the opportunities for textile engineers have never been brighter.

## Opportunities

Textile engineers, teaming with chemists, physicists, materials scientists, and other engineers are designing new polymers, fibers, and textile structures to revolutionize the future of materials. Whether it be for personal protective garments such as bullet proof vests and Gore-tex® or materials used in the next generation space shuttle and the stealth bomber, textile engineers are developing products that are stronger, lighter, and more durable than current materials. Textile engineers are employed in a wide variety of industries that include aerospace, automotive, chemical, composites, management consulting, fiber processing, medical devices, manufacturing and retail, and textile processing.

The TE Program provides a fundamental engineering degree with a working knowledge of the very large textile industry as well as its allied industries. We have our own career planning and placement center to assist students in identifying and selecting internships and permanent careers. Historically, TE graduates have had nearly 100% placement into graduate school or full time employment with starting salaries among the highest at N.C. State University. Compared to the rest of North Carolina State University, the College of Textiles has the highest percentage of students participating in scholarship programs. Indeed, over 50% of all Textile Engineering students receive scholarship support! Owing to the size of the program, many of our undergraduate students participate in research with our world renowned faculty further providing financial assistance as well as professional growth. Almost all of our textile engineering students participate in summer internships. Most of our graduates select jobs that are located in the Southeast, but others who desire to work in other regions of the country have opportunities to do so. Our graduates work in the biomedical industries on the east and west coasts and in Chicago, the automotive industry in Michigan, the aerospace industry in Texas, as well as large apparel and retail companies in Oregon, Maryland, California, Utah, Ohio and North Carolina.

## Curriculum

The TE program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>. The TE program has three concentrations allowing a customized curriculum that fits your

specific educational goals. The concentrations emphasize Information Systems Design, Chemical Processing and Product Engineering. Minors in associated engineering fields (e.g., Computer Science, Industrial Engineering, and Materials Science) as well as foreign language minors are strongly encouraged as part of the academic plan. For exceptional students, dual degree programs with Chemical and Biomolecular Engineering, Biomedical Engineering, and Materials Science and Engineering provide a bachelor degree in two engineering majors with one additional semester of course work.

## Educational Objectives

The Textile Engineering Program of the Department of Textile Engineering, Chemistry and Science is committed to instill a strong academic program whereby graduates, within the first few years after graduation are prepared for the following accomplishments:

1. Recognized contributions in the workplace that involve creative and critical thinking in applying the discipline's body of knowledge and for tackling contemporary issues and engineering challenges that face our global society;
2. A reputation of problem solving in a professional, ethical and safe manner;
3. Established communication and teaming skills in a professional environment; and
4. Evidence of continuous learning through seeking educational and developmental opportunities and by adapting to ever-changing economic, social, and technological environments.

Specific curriculum requirements are available online (<https://textiles.ncsu.edu/tecs/>).

## Faculty

### Head, Department of Textile Engineering, Chemistry and Science

J.A. Joines

---

### Associate Head

R.E. Gorga

M.A. Pasquinelli

---

### Director of Undergraduate Programs

R.E. Gorga

---

### Director of Graduate Programs

M.A. Pasquinelli

---

### Burlington Chair in Textile Technology

R.L. Barker

---

**William A. Klopman Distinguished Professor**

B. Pourdeyhimi

---

**Professors**

A. El-Shafei

T.K. Ghosh

R.E. Gorga

D. Hinks

S.M. Hudson

W.J. Jasper

J.A. Joines

M. King

S. Michielsen

M.A. Pasquinelli

J.P. Rust

X. Zhang

---

**Teaching Professor**

H. Hamouda

---

**Associate Professor**

P. Banks-Lee

P.D. Bradford

E.A. DenHartog

G.L. Hodge

J.S. Jur

R. Kotek

W.E. Krause

J.P. Lavelle

S. Salmon

---

**Adjunct professor**

D. Griffis

---

**Professors Emeriti**

K.R. Beck

P.L. Grady

B.S. Gupta

G.N. Mock

M.H. Mohamed

C.B. Smith

M.H. Theil

---

**Adjunct Associate Professor**

R.G. Kuehni

B. Oliver

---

**Adjunct Assistant Professor**

H.A. Boyter

J.A. Willoughby

B.Y. Yeom

---

**Research Assistant Professor**

B. Ormond

---

**Adjunct Lecturer**

S. Dunning

G. Knight