

Textile Engineering Program

Textile Building/Centennial Campus, Room 3270

The Textile Engineering (TE) Program at North Carolina State University is administered jointly by the Wilson College of Textiles and the College of Engineering. It 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 streamlining 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 for personal protective garments such as bulletproof vests and Gore-tex® or materials used in the next-generation space shuttle and the stealth bomber, textile engineers are developing stronger, lighter, and more durable products. Textile engineers are employed in various industries, including 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 program's size, many of our undergraduate students participate in research with our world-renowned faculty, further providing financial assistance and 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, Colorado, Maryland, California, Utah, Ohio, South Carolina, and North Carolina.

Curriculum

The Textile Engineering 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 (i.e., analytics), Chemical Processing, and Product Engineering. Minors in associated engineering fields (e.g., Computer Science, Industrial and Systems Engineering, Chemical 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 in Chemical and biomolecular engineering, Biomedical Engineering, and Materials Science and Engineering provide a bachelor's degree in two engineering majors with one additional semester of coursework.

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

Department Head

Emiel DenHartog, *Professor, Department Head TECS*

Professors

Roger Barker, *Burlington Distinguished Professor and Director of Textile Protection and Comfort Center*

Philip Bradford

Ahmed El-Shafei

Raoul Farer

Tushar Ghosh, *William A. Klopman Distinguished Professor*

David Hinks, *Dean, Wilson College of Textiles*

Warren Jasper

Jeff Joines, *Alumni Association Distinguished Undergraduate Professor; Associate Dean for Academic Programs, Faculty Excellence and Student Success*

Martin King

Renzo Shamey, *CIBA Distinguished Professor*

Nelson Vinueza Benitez

Xiangwu Zhang, *Samuel S. Walker Distinguished Professor and Associate Dean for Research*

Jon Rust

Alan Tonelli

Associate Professors

Ericka Ford

Wei Gao, *University Faculty Scholar*

Wendy Krause

Jerome Lavelle, *Associate Dean, Wilson College of Textiles*

R. Bryan Ormond

Sonja Salmon

Eunkyoung Shim

Assistant Professors

Januka Budhatoki Uprety

Xiaomeng Fang

Jessica Gluck

Amanda Mills

Md Abdul Quddus

Thomas Schroeder

Tova Williams

Rong Yin

Yang Zhang

Mengmeng Zhu

Teaching Assistant Professor

Madilynn Smith

Adjunct Assistant Professor

Nilesh Ingle

Emeritus Faculty

Harold Freeman

Peter Hauser

George Hodge

Samuel Hudson