Textile Technology (BS): Supply Chain Operations Concentration

Our B.S. in Textile Technology (https://textiles.ncsu.edu/academics/undergraduate/textile-technology/) is perfect for students who want a hands-on, applied science education spent in labs instead of behind a desk.

Textile technology students learn not only about the fibers that make up the textiles we use in everything from outdoor gear to sneakers, but also about business, supply chain operations and manufacturing. They then apply this knowledge to work with textile engineering students and industry partners on a year-long Senior Design project (https://textiles.ncsu.edu/student-experience/senior-design/).

The Textile Supply Chain Operations (https://textiles.ncsu.edu/academics/undergraduate/textile-technology/textile-supply-chain-operations/) concentration focuses on the design, management and coordination of all the activities required to transform raw materials into finished textile products to retail.

Contact

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Plan Requirements

Code	Title	Hours
Orientation		
T 101	Strategies for Success in the Wilson College of Textiles	1
MA/ST and Natural Sciences		
MA 131	Calculus for Life and Management Sciences A [1]	3-4
or MA 141	Calculus I	
MA 231	Calculus for Life and Management Sciences B [1]	3-4
or MA 241	Calculus II	
ST 311	Introduction to Statistics	3
or ST 370	Probability and Statistics for Engineers	
CH 101	Chemistry - A Molecular Science [1]	3
CH 102	General Chemistry Laboratory [1]	1
PY 205 & PY 206	Physics for Engineers and Scientists I and Physics for Engineers and Scientists I Laboratory	4
or PY 211	College Physics I	
PY 208 & PY 209	Physics for Engineers and Scientists II and Physics for Engineers and Scientists II Laboratory	4
or PY 212	College Physics II	
Major Requirements		
EC 205	Fundamentals of Economics	3
FTM 217	The Textile Industry	3
MT 366	Biotextile Product Development	3
PCC 302	Technology of Textile Wet Processing	4
TE 200	Introduction to Polymer Science and Engineering	3
TE 201	Fiber Science	4
TT 105	Introduction to Textile Technology	3
TT 327	Yarn Production and Properties	4
TT 331	Performance Evaluation of Textile Materials	4
TT 341	Knitted Fabric Technology	3
TT 351	Woven Products and Processes	3
TT 380	Management and Control of Textile and Apparel Systems	3
TT 401	Textile Technology Senior Design I	4
TT 402	Textile Technology Senior Design II	4
TT 404	Introduction to Nonwovens Products and Processes	3
TT 431	Quality Management and Control In Textile Manufacturing	3
TT 481	Design and Technology of Technical Textiles	3
Supply Chain Operations Concentration		
TT 480	Operations Management Decisions for Textiles	3
TT 486	Supply Chain Management in the Textile Industry	3
ACC 210	Concepts of Financial Reporting	3
BUS 320	Financial Management	3
Supply Chain Operations Concentration (p. 2)		6
GEP Courses		
Acad Writing Research (p. 1) [1]		4
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		2
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		5
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/) (verify requirement)		
GEP Foundations of American Democracy (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-fad/) (verify requirement)		
World Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/world-language-proficiency/) (verify requirement)		
Total Hours		**120**

Acad Writing Research

Code	Title	Hours
Acad Writing Research		
ENG 101	Academic Writing and Research	4
WLEN 101	Academic Writing and Research	4

Transfer Sequence		
ENG 202	Disciplinary Perspectives in Writing	3
ENG 1 GEP		3

Supply Chain Operations Concentration

Code	Title	Hours
Supply Chain Operations Electives		
DSC 201	Introduction to R/Python for Data Science	1
DSC 205	Data Communication	1
DSC 295	Introductory Special Topics in Data Science	1-3
DSC 406	Exploratory Data Analysis for Big Data	1
DSC 412	Exploring Machine Learning	1
DSC 495	Special Topics in Data Science	1-3
FTM 310	Entrepreneurship & New Product Development in Textiles	3
FTM 315	Fashion Product Design	3
FTM 317	Computer Aided Fashion Design	3
FTM 318	Fashion Development Processes	3
FTM 320	Retail Merchandising in Fashion and Textiles	3
FTM 382	Brand Management in Textiles and Apparel	3
FTM 384	Visual Merchandising Principles and Management	3
FTM 385	Fashion and the Consumer	3
FTM 387	Textile Brand Communications & Promotions	3
FTM 400	Major Fashion Designers	3
FTM 415	Fashion Product Development	3
FTM 416	The Fashion Industry	3
FTM 420	Retail Buying in Fashion and Textiles	3
FTM 460	Textile Market Research	3
FTM 481	Product Costing in the Textile and Apparel Industry	3
FTM 482	Global Brand Management in Textiles and Apparel	3
FTM 483	Global Trade & Sourcing	3
FTM 484	Strategic Planning and Decision Making in the Textile and Fashion Industries	3
FTM 485	Textile Computer Integrated Enterprise	3
FTM 487	Human Resource Management and Leadership in the Textile and Fashion Industries	3
FTM 490	Development Projects in Textile and Apparel Management	1-3
FTM 491	Special Topics in Textile and Apparel Management	1-4
MT 323	Introduction to Theory and Practice of Medical Fiber and Yarn Formation	3
MT 381	Medical Textile and the Regulatory Environment	3
MT 432	Evaluation of Biotextiles	3
MT 471	Chemistry of Biopolymers	3
NW 408/TT 508	Nonwoven Product Development	3
NW/TT 503	Materials, Polymers, and Fibers used in Nonwovens	3
NW/TT 504	Introduction to Nonwovens Products and Processes	3
NW/TT 507	Nonwoven Characterization Methods	3
PCC 201	Impact of Industry on the Environment and Society	3
PCC 274	Introduction to Forensic Science	3
PCC 350	Introduction to Color Science and Its Applications	2
PCC 354	Intro to Color Science Laboratory	1
PCC 420	Textile Dyeing and Printing	3
PCC 471	Chemistry of Biopolymers	3
TE 110	Computer-Based Modeling for Engineers	3
TE 440	Textile Information Systems Design	4
TE 533	Lean Six Sigma Quality	3
TMS 521	Filament Yarn Production Processing and Properties	3
TT/NW 405	Advanced Nonwovens Processing	3
TT 407	Characterization Methods in Nonwovens	3
TT 451	Advanced Woven Fabric Design	3
TT 470	Jacquard Woven Fabric Design	3
TT 485	Textile Computer Integrated Enterprise	3
TT 500	Understanding the Textile Complex	3
TT 503	Materials, Polymers, and Fibers used in Nonwovens	3
TT 504	Introduction to Nonwovens Products and Processes	3
TT 507	Nonwoven Characterization Methods	3
TT 508	Nonwoven Product Development	3
T 493	Internship in Textiles	1-3
T 497	Independent Research in Textile Engineering, Chemistry and Materials Science I	1-3
T 498	Independent Research in Textile Engineering, Chemistry and Materials Science II	1-3
TT 520	Yarn Processing Dynamics	3
TT 521	Filament Yarn Production Processing and Properties	3
TT 530	Textile Quality and Process Control	3
TT 532	Evaluation of Biotextiles	3
TT 533	Lean Six Sigma Quality	3
TT 535	Research Methods and Management	3
TT 549	Warp Knit Engineering and Structural Design	3
TT 550	Production Mechanics and Properties of Woven Fabrics	3
TT 551	Advanced Woven Fabric Design	3
TT 553	Formation and Structure of Woven and Knitted Fabrics	3
TT 570	Textile Digital Design and Technology	3
TT 571	Professional Practices in Textile Design and Technology	3
TT 581	Technical Textiles	3
TT 591	Special Studies in Textile Technology	1-4
TTM 530	Textile Quality and Process Control	3
TTM 533	Lean Six Sigma Quality	3
TTM 535	Research Methods and Management	3

Semester Sequence

This is a sample.

First Year		
Fall Semester		**Hours**
CH 101	Chemistry - A Molecular Science [1]	3
CH 102	General Chemistry Laboratory [1]	1

ENG 101	Academic Writing and Research	4
MA 131 or MA 141	Calculus for Life and Management Sciences A [1] or Calculus I	3-4
TT 105	Introduction to Textile Technology (CP)	3
T 101	Strategies for Success in the Wilson College of Textiles	1
	Hours	**15**
Spring Semester		
MA 231 or MA 241	Calculus for Life and Management Sciences B [1] or Calculus II	3-4
PY 211 or PY 205 ***and*** PY 206	College Physics I or Physics for Engineers and Scientists I ***and*** Physics for Engineers and Scientists I Laboratory	4
FTM 217	The Textile Industry	3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**14**
Second Year		
Fall Semester		
PY 212 or PY 208 ***and*** PY 209	College Physics II or Physics for Engineers and Scientists II ***and*** Physics for Engineers and Scientists II Laboratory	4
TE 201	Fiber Science (CP)	4
TT 327	Yarn Production and Properties (CP)	4
TT 380	Management and Control of Textile and Apparel Systems	3
	Hours	**15**
Spring Semester		
EC 205 or EC 201	Fundamentals of Economics or Principles of Microeconomics	3
ST 311 or ST 370	Introduction to Statistics or Probability and Statistics for Engineers	3
TE 200	Introduction to Polymer Science and Engineering	3
TT 341	Knitted Fabric Technology (CP)	3
ACC 210	Concepts of Financial Reporting	3
	Hours	**15**
Third Year		
Fall Semester		
TT 404	Introduction to Nonwovens Products and Processes	3
TT 351	Woven Products and Processes	3
PCC 302	Technology of Textile Wet Processing	4
TT 480	Operations Management Decisions for Textiles	3
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3
	Hours	**16**
Spring Semester		
TT 331	Performance Evaluation of Textile Materials (CP)	4
MT 366	Biotextile Product Development	3
TT 431	Quality Management and Control In Textile Manufacturing	3
TT 486	Supply Chain Management in the Textile Industry	3
GEP Elective (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/)		3
	Hours	**16**
Fourth Year		
Fall Semester		
TT 401	Textile Technology Senior Design I	4
TT 481	Design and Technology of Technical Textiles	3
Textile Supply Chain Oper Elective (p. 2)		3
BUS 320	Financial Management	3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		2-3
	Hours	**15**
Spring Semester		
TT 402	Textile Technology Senior Design II	4
Textile Supply Chain Oper Elective (p. 2)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**14**
	Total Hours	**120**

[1] Must be completed with a grade of C- or higher for major requirements

Career Opportunities

You can find textiles just about anywhere, which means you can find our graduates there too. Textile Technology alumni land jobs within aerospace, medicine, automotive, apparel, sports, manufacturing and more.

These are just a few of the places our graduates go:

- Athletics and Apparel: Nike, Adidas, The North Face, New Balance, Reebok, Levis, Fruit of the Loom, Hanesbrands
- Healthcare/Medical Textiles: Medline, Secant Medical
- Homewares: Target, Kohl's
- Government Agencies/Defense: United States Patent and Trademark Office, State Bureau of Investigation (SBI)

- Traditional Textiles: Milliken, Unifi, Parkdale Mills, Glen Raven, Springs Global
- Plus: SAS, All Trails, Lenovo, Cisco, Accenture, IBM, Wolfspeed Inc.

Career Titles

- Materials Developer / Specialist / Designer
- Research and Development Engineer
- Product Development Specialist
- Strategic Sourcing Manager
- Logistics Manager / Inventory Manager
- Data Scientist
- Design Engineer / Process Improvement Engineer
- Production Manager / Project Engineer / Product Manager
- Quality Control Engineer
- Technical Marketing Manager
- Technical Service / Sales

Learn More About Careers

NCcareers.org (https://nccareers.org/)
Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (https://www.bls.gov/ooh/)
Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics. You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (https://www.careeronestop.org/)
View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation. Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (https://careers.dasa.ncsu.edu/explore-careers/career-assessments/) (NC State student email address required)
This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (https://careers.dasa.ncsu.edu/about/hours-appointments/) to discuss the results.

Focus 2 Apply Assessment (https://www.focus2career.com/Portal/Register.cfm?SID=1929) (Available to prospective students)
A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.

American Society of Quality (http://asq.org/)

The Fiber Society (https://www.thefibersociety.org/)