Textile Technology (BS)

To see more about what you will learn in this program, visit the Learning Outcomes website (https://apps.oirp.ncsu.edu/pgas/)!

The B.S. in Textile Technology provides students with basic knowledge of fiber materials, science and technologies of fiber processing, as well as fiber-based product design and development. The curriculum prepares students in product design and development processes, beginning with understanding of application to material selection to appropriate technologies to utilize.

The Textile Technology degree program offers a well rounded versatile degree, which prepares graduates to collaborate effectively with professionals in a global interdisciplinary environment. After introductory exposure to several of the fundamental aspects of fiber science and textile technology, the student can build additional depth in one of the three concentrations of Medical Textiles, Technical Textiles, and Textile Supply Chain Operations or stay in the general degree which allows students the flexibility of designing their own interest or transferring from other programs or community colleges. The Medical Textiles concentration covers design and methods of production of state-of-the-art textile products and devices used in medical applications including sutures for wound closing to cardiac support devices. The Technical Textiles concentration covers design principles, understanding of applications, and technologies relevant to the vast array of technical textiles materials and products used in such areas as transportation, storage, packaging, automobile engineering, geotechnical engineering, and much more. This concentration offers two options: Materials and Nonwovens. The Textile Supply Chain Operations concentration focuses on the design, management, and coordination all the activities required to transform raw materials into finished textile products to retail. Students in this degree program will participate in the TE/TT Capstone Design Program (https://textiles.ncsu.edu/tecs/student-experience/senior-design/), where projects are sponsored by industry partners and government agencies. More information about the degrees is available on the TECS TT (https://textiles.ncsu.edu/tecs/undergraduate/textile-technology/) website.

Plan Requirements

Code	Title	Hours	Counts towards
Orientation			
T 101	Strategies for Success in the Wilson College of Textiles	1	
ENG 101	Academic Writing and Research [1]	4	
MA/ST and Natural Sciences			
MA 131 & MA 132	Calculus for Life and Management Sciences A and Computational Mathematics for Life and Management Sciences [1]	4	
or MA 141	Calculus I		
MA 231	Calculus for Life and Management Sciences B	3	
or MA 241	Calculus II		
ST 311	Introduction to Statistics	3	
or ST 370	Probability and Statistics for Engineers		
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory [1]	4	
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	
TMS 211	Introduction to Fiber Science	3	
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
Advised Electives		
Advised Electives [2]		18
GEP Courses		
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 US Diversity, Equity, and Inclusion (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-usdei/)		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 requirements)		
Foreign Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/) (verify requirements)		
Total Hours		**120**

[1] C- or better

[2] Students should consult their academic advisors to determine how to complete this requirement.

Semester Sequence

This is a sample.

First Year

Fall Semester		Hours
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory [1]	4
ENG 101	Academic Writing and Research	4
MA 131	Calculus for Life and Management Sciences A [1]	3
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	Calculus for Life and Management Sciences B	3
MA 132	Computational Mathematics for Life and Management Sciences	1
PY 211	College Physics I	4
TMS 211	Introduction to Fiber Science	3
FTM 217	The Textile Industry	3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
	Hours	**15**
Second Year		
Fall Semester		
EC 205	Fundamentals of Economics	3
PY 212	College Physics II	4
TE 200	Introduction to Polymer Science and Engineering	3
TT 327	Yarn Production and Properties (CP)	4
TT 380	Management and Control of Textile and Apparel Systems	3
	Hours	**17**
Spring Semester		
ST 311	Introduction to Statistics	3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
TT 351	Woven Products and Processes (CP)	3
TT 341	Knitted Fabric Technology (CP)	3
Advised Elective		3
	Hours	**15**
Third Year		
Fall Semester		
TT 404	Introduction to Nonwovens Products and Processes	3

TT 481	Design and Technology of Technical Textiles	3
PCC 302	Technology of Textile Wet Processing	4
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		3
Advised Elective		3
	Hours	**16**
Spring Semester		
TT 331	Performance Evaluation of Textile Materials (CP)	4
MT 366	Biotextile Product Development	3
Select two Advised Elective courses		6
GEP US Diversity, Equity, and Inclusion (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-usdei/)		3
	Hours	**16**
Fourth Year		
Fall Semester		
TT 401	Textile Technology Senior Design I	4
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		2-3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1
Advised Elective		3
	Hours	**13**
Spring Semester		
TT 402	Textile Technology Senior Design II	4
GEP Social Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/)		3
TT 431	Quality Management and Control In Textile Manufacturing	3
Advised Elective		3
	Hours	**13**
	Total Hours	**120**

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