

Fiber and Polymer Science (PhD)

Degree Requirements

The Ph.D. degree in Fiber and Polymer Science symbolizes the ability of the recipient to undertake original and scholarly work at the highest levels without supervision. The degree is, therefore, not granted simply upon the completion of a stated amount of course work but rather upon demonstration by the student of a comprehensive knowledge base and high attainment in scholarship. The student demonstrates this ability by passing a series of courses, creating a written critical literature review and original research proposal, defending an oral preliminary examination, writing a dissertation reporting the results of an original investigation, and making a final oral defense of the research before the student's advisory committee and other interested members of the University community.

Code	Title	Hours	Counts towards
Required Courses			
FPS 801	Seminar ¹		14
FPS 770	Advances in Polymer Science ²		
TMS 762	Physical Properties Of Fiber Forming Polymers, Fibers and Fibrous Structures ²		
Select two additional Courses from the following: ²			
Polymer Science			
TC 771	Polymer Microstructures, Conformations and Properties		
Fiber Science			
TC 704	Fiber Formation--Theory and Practice		
TMS 761	Mechanical and Rheological Properties Of Fibrous Material		
TMS 763	Characterization Of Structure Of Fiber Forming Polymers		
Coloration and Wet Processing			
TC 706 & TC 707	Color Science and Color Laboratory		

TC/FPS 710	Science of Dye Chemistry, Dyeing, Printing and Finishing
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TC 720	Chemistry Of Dyes and Color
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Formation and Properties of Textile Products

FPS 750	Advances in Fabric Formation, Structure, and Properties
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Additional Courses	58
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"Elective Courses" that will be applied to reach 72 credit hours will be determined in conjunction with the academic committee

Total Hours	72
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- ¹ All students must take two (2) semesters of FPS 801 Seminar.
- ² Every student must obtain a grade of B or better in each of the four qualifying courses chosen.

Additional Requirements

- A minimum of 72 credit hours is required of students entering the program with a B.S. degree, or a minimum of 54 credit hours beyond the M.S. degree is required. (Students, who enter the Ph.D. program directly upon completion of an M.S. at NC State, may be allowed credit for up to 30 hours of their M.S. and thus would require 42 additional credit hours to complete the Ph.D.)
- Most of these credit hours are expected to be research credits (FPS 893 Doctoral Supervised Research or FPS 895 Doctoral Dissertation Research).
- Following successful course completion, the student needs to pass the defense of a research proposal to obtain the candidacy for the Ph.D degree.
- The final examination is an oral exam where the student presents and defends her/his research procedures, results and conclusions. The presentation will be made to an examining committee consisting of the student's advisory committee and is open to interested faculty, staff and students. After the presentation the student will be orally examined by the examining committee. The final oral examination can be scheduled once all coursework requirements have been fulfilled and the committee is satisfied that the dissertation is complete, but not earlier than one semester after admission to candidacy.
- The anticipated time for completion of the Ph.D. program is four years for a student entering from a B.S. degree and three years for entry from an M.S. degree. The minimum time required (in exceptional cases) is two years beyond entry if the student obtained an M.S. degree from NC State.

Faculty

Full Professors

Harald Ade

Charles M. Balik

Roger L. Barker

Keith R. Beck

Carl L. Bumgardner

Timothy Clapp

Ahmed Mohamed El-Shafei

Peter Fedkiw

Harold S. Freeman

Jan Genzer

A. Blanton Godfrey

Maureen Grasso

David Hinks

Cynthia L. Istook

Saad A. Khan

Tushar K. Ghosh

Russell E. Gorga

Christopher B. Gorman

Peter J. Hauser

Samuel Mack Hudson

Warren J. Jasper

Jeffrey Allen Joines

Martin William King

Traci Ann May Lamar

Karen Leonas

Trevor J. Little

Lucian Lucia

Marian G. McCord

Roger Narayan

Melissa Pasquinelli

Behnam Pourdeyhimi

Jon Paul Rust

Abdel-fattah Mohamed Seyam

Renzo Shamey

Richard Spontak

Alan E. Tonelli

Richard A. Venditti

Yingjiao Xu

Xiangwu Zhang

Associate Professors

Katherine Emma Annett-Hitchcock

Pamela Banks-Lee

Kristin Anne Barletta

Philip Bradford

Emiel DenHartog

Wei Gao

Helmut H. Hergeth

George Lawrence Hodge

Jesse Stephen Jur

Richard Kotek

Wendy E. Krause

Jerome Lavelle

Shuang Lim

Kavita Mathur

Lokendra Pal

Lisa Parrillo-Chapman

Sonja Salmon

Minyoung Suh

Nelson Vinueza

Assistant Professors

Xiaomeng Fang

Ericka Ford

Robert Ormond

Eunyoung Shim

Januka Budhathoki Uprety

Rong Yin

Mengmeng Zhu

Practice/Research/Teaching Professors

Nagendra Anantharamaiah

Raymond Earl Fornes

Genevieve Garland

Dieter Griffis

Hechmi Hamouda

Benoit Maze

Antony Williams

Julie Ann Willoughby

Bong-Yeol Yeom

Emeritus Faculty

Subhash K. Batra

Robert Alan Donaldson

Aly H El-Shiekh

Raymond Earl Fornes

Perry L. Grady

Bhupender S. Gupta

Harold B. Hopfenberg

Samuel Clyde Winchester Jr

Stephen Michielsen

Gary N. Mock

Mansour H. Mohamed

William Oxenham

Nancy Powell

Suzanne Townsend Purrington

William C. Stuckey Jr

Carl B. Smith

Gary W. Smith

Moon Won Suh

Michael Herbert Theil

Charles Tomasino

Carl F. Zorowski

Adjunct Faculty

Genevieve Garland

Abhay Sham Joijode

Mohamad Samir Midani

Behnam Pourdeyhimi

Orlando Jose Rojas

Gisela de Aragao Umbuzeiro