

FIBER SCIENCE (MS)

Graduate School

Program Website (<https://www.human.cornell.edu/hcd/academics/graduate-study/fiber-science-grad-programs/>)

CIP: 15.0607 | HEGIS: 1303.00 | NYSED: 81163

Graduate Field

Fiber Science and Apparel Design (<https://catalog.cornell.edu/graduate-school/fiber-science-apparel-design/>)

Program Description

The common focus of the field is the study of fibrous materials and their use as apparel, as engineering structures (such as composite materials), in biomedical applications, and in home furnishings. The Field of Fiber Science and Apparel Design is applied and multidisciplinary, with faculty members drawn from the Colleges of Human Ecology and Engineering.

Students are expected to develop strength in their base discipline as well as gain appropriate breadth to support the area of specialization. Active research programs exist in high-performance fibers and fiber-reinforced composites; Green composites; detergency and surface chemistry; perfume treated fabrics; textile materials in biomedical and geotechnical applications; polymers for electronics; liquid-crystal polymers; textile-dye chemistry; crystal morphology of fibers; electrospin of fibers; cellulose; apparel and fashion design, design ethnography; sizing and fit of apparel; functional apparel; cultural and historic studies of clothing and textiles; mass customization and technology; and technology management in the apparel industry.

For M.A. and M.S. degree candidates, the Special Committee consists of at least two Graduate Faculty members.

Outstanding facilities for research and study are available in the College of Human Ecology and the College of Engineering. Textile and polymer science laboratories are equipped with modern instrumentation for chemical, physical, and mechanical analysis and with a controlled temperature and humidity room. Apparel design studios are equipped with industrial sewing equipment. Video image-capture and photography equipment is available in a visual analysis lab. The functional apparel lab houses a variety of human-factors testing equipment, including a full-body scanner.

Concentrations

- Fiber science
- Polymer science
- Textile science

Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 48

Program Requirements

- Minimum Semesters for Degree: 4

Graduate School Milestones

- Responsible Conduct of Research Training: Required
- Open Researcher and Contributor ID (ORCID): Required
- Student Progress Reviews (SPR) begin: Second Year
- Masters Exam (M Exam): Spring of second year

Course Requirements

Course requirements are determined by the student's Special Committee. Enrollment in a GRAD research course or the equivalent field specific research course is expected of all students.

University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

Non-academic Requirements

Conduct Matters. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

Financial Obligations. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

Learning Outcomes

Master concepts in Fiber Science such as:

- Theory and practice of fiber formation
- Rheology of solids: dynamic mechanical analysis of fibers and polymers
- Physical properties of fiber-forming polymers and fibers
- Chemistry of textile finishes and dyeing
- Properties of fibrous systems