Textile Chemistry

Master of Science in Textile Chemistry (MS/TC)

The Master of Science in Textile Chemistry program emphasizes the fundamental principles of polymer science, dyeing and finishing technology, color science, dye chemistry, fiber formation, analytical chemistry and forensics. While learning these principles, these master's students also develop their research, technical and analytical skills.

Alumni who head into industry after graduation find work in a wide variety of fields ranging from the chemical, environmental science, medical and forensic science industries to the retail, textile and apparel industries.

Focus areas of this program include:

- Dyeing and finishing chemistry.
- Forensic and analytical chemistry.
- Polymer science.
- Sustainability.
- Smart fibers and e-textiles.
- Nonwovens.
- Product development.

This program is available in both thesis and non-thesis options. The non-thesis option can be completed entirely online (https://online-distance.ncsu.edu/program/master-of-science-in-textile-chemistry/).

Degree Requirements Master of Science in Textile Chemistry (MS/TC)

The Masters of Science in Textile Chemistry (MS TC) has two options, a thesis option (Option A) and a non-thesis option (Option B).

M.S. TC Option A (Thesis Degree) Program Requirements

MS TC Option A (Thesis) requires a minimum of 32 credit hours, with a minimum of 24 credit hours (8 courses) meeting the following requirements:

- At least 12 credit hours of courses with substantial chemistry content, mostly CH or TC, or from the approved TC offerings table. Substitutions must be approved by the Director of Graduate Programs;
- A minimum of 15 credit hours of courses that are offered by the TECS Department, which may have the following prefixes: TC (PCC), TE, TMS, NW, TT, FPS, and TTM. Note: not all courses with these prefixes are offered by the TECS Department;
- Two semesters of TC601 (Graduate Seminar) are required;
- For the thesis a minimum of six hours of thesis related research is required (TC 695, TC693 or TC630).

Master’s Thesis. The Master’s thesis should be a research exercise that necessitates expertise at the M.S. level and is concentrated in the textile chemistry area on a well-defined topic that has a restricted scope.

M.S. TC Option B (Non-Thesis Degree) Program Requirements

MS TC Option B (Non-Thesis) requires a minimum of 32 credit hours, with a minimum of 24 credit hours (8 courses) meeting the following requirements:

- At least 12 credit hours of courses with substantial chemistry content, mostly CH or TC, or from the approved TC offerings table. Substitutions must be approved by the Director of Graduate Programs;
- A minimum of 15 credit hours of courses that are offered by the TECS Department, which may have the following prefixes: TC (PCC), TE, TMS, NW, TT, FPS, and TTM. Note: not all courses with these prefixes are offered by the TECS Department;
- Two semesters of TC601 (Graduate Seminar) are required;
- At least six credit hours of project-related work in textile chemistry at the 600 level or above, such as TC 630 (Independent Study) or an internship, which will be advised by and evaluated by at least one Graduate Faculty Member in Textile Chemistry.

Degrees

- Textile Chemistry (MS) (http://catalog.ncsu.edu/graduate/textiles/textile-chemistry/textile-chemistry-ms/)
- Textile Chemistry (Minor) (http://catalog.ncsu.edu/graduate/textiles/textile-chemistry/textile-chemistry-minor/)

Faculty

Roger L. Barker
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Philip Bradford
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Behnam Pourdeyhimi
Jon Paul Rust
Sonja Salmon
Renzo Shamey
Eunkyoung Shim
Richard J Spontak
Alan E Tonelli
Xiangwu Zhang
Mengmeng Zhu

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Adjunct Faculty
Gisela de Aragao Umbuzeiro

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Practice/Research/Teaching Professors
Hechmi Hamouda
Benoit Maze
Jialong Shen
Tova Williams

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Emeritus Faculty
Pam Banks-Lee
Robert Alan Donaldson
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