Forest Biomaterials

Course offerings and research facilities are available in the following areas: forest biomaterials chemistry, biopolymer chemistry, bio-materials, bio-energy, pulping chemistry, process analysis, polymer chemistry, paper physics, paper recycling, engineering unit operation, wood-based industry economics and marketing, and forest-based life cycle analysis.

Master of Science Degree Requirements

The M.S. degree requires a minimum of 30 credit hours. In addition to Research Methods (FB 501), students must take either three of the four FB core courses (FB 516, FB 565, FB 723, and FB 760) or two FB core courses and another graduate course, depending on the field of study. In addition, six hours of research (FB 695) and one hour of Seminar (FB 601) must be taken. A qualifying exam must be passed which is the equivalent of passing FB 501 with a B- or better grade. In order to graduate, students must also pass a final examination and successfully defend a research theses.

Master of Forest Biomaterials Degree Requirements

The Master of Forest Biomaterials is a non-thesis, professional degree intended for students not interested in a thesis-based research program. The Master of Forest Biomaterials degree is offered both on campus and through Distance Education. For the on-campus program, a minimum of 36 course credits is required. The regulations regarding credits are the same as for the M.S. degree, except that no credit for FB 695 is required or given and up to six credits of 400-level courses in the major field may be included. A technical report (FB 625), which demonstrates the student's ability to gather, analyze and report information, is required.

In addition to Graduate School requirements, the Distance Education program requires that the student be employed professionally in a wood or paper science or allied field and take required Forest Biomaterials core courses, which vary depending on the field of study. A minimum of 30 course credits is required of students who have at least one year of relevant professional experience. These credit hours include one hour of Seminar (FB 601) and five hours of an independent project (FB 625). For distance students without relevant professional experience, 36 hours is required.

Doctoral Degree Requirements

In addition to Graduate School requirements, Ph.D. candidates must take two departmental seminars (FB 801), pass qualifying exam I. (satisfied by passing Research Methods (FB 501 or FB 701) with a B- or better) and qualifying exam II. In addition to FB 701, students must take either three of the four FB core courses (FB 516, FB 565, FB 723, and FB 760) or two FB core courses and another graduate course, depending on the field of study. The University requires a preliminary written exam to be completed before the preliminary oral exam. For the written portion of the exam, student’s graduate committee provides a set of written questions or a written topic/problem to the student. The committee reviews the responses or the written proposal and decides whether the student passed the written part of the preliminary exam and can proceed with the oral part of the preliminary exam reporting on the student's research topic. In order to graduate, students must also pass a final examination and successfully defend a research dissertation.

Student Financial Support

A number of research assistantships and fellowships are available.

Other Relevant Information

Graduate students should select a advisory committee chair and other committee members and submit a plan of graduate work as soon as it is required by the advisory committee, usually after the first year of residence for MS students and at the end of the second year residence for PhD students. They are also required to take the qualifying examination as part of a FB 501/701 Research Methods course. These examinations are to ensure that the student has the basic abilities to think independently as a scientist within the context of the forest biomaterials literature. The department believes M.S. and Ph.D. students should select a research topic and begin their dissertation or thesis research as early as possible.

As the field of forest biomaterials is a derived science, students are urged to develop a strong secondary area of excellence in one or more of the supporting disciplines such as organic chemistry, polymer chemistry, chemical engineering, mathematics, statistics, biology, engineering mechanics, mechanical engineering, physics, and economics or business administration.

Program Website (http://cnr.ncsu.edu/fb/)

Distance Website (http://distance.ncsu.edu/programs/master-of-forest-biomaterials/)

Admission Requirements

Requirements listed here are in addition to graduate school requirements stated elsewhere. To be admitted, a student should have earned a B.S. degree with a major in wood and paper science, chemistry, chemical engineering or another suitable science or engineering degree. Students with a 3.0 GPA and with appropriate course backgrounds will be considered for admission. The GRE test scores are recommended but not required.

Applicant Information

Forest Biomaterials (MS and PhD)

- **Delivery Method:** On-Campus
- **Entrance Exam:** None
- **Interview Required:** None

Forest Biomaterials (MR)

- **Delivery Method:** On-Campus, Online, Hybrid
- **Entrance Exam:** None
- **Interview Required:** None

Application Deadlines

- **Fall:** June 25 (US); March 1 (Int)
- **Spring:** November 25 (US); July 15 (Int)
- **Summer 1:** March 25 (US); December 15 (Int)
- **Summer 2:** May 10 (US); December 15 (Int)

Degrees

- Forest Biomaterials (MR) (http://catalog.ncsu.edu/graduate/natural-resources/forest-biomaterials/forest-biomaterials-mr/)

- Forest Biomaterials (MS) (http://catalog.ncsu.edu/graduate/natural-resources/forest-biomaterials/forest-biomaterials-ms/)
- Forest Biomaterials (PhD) (http://catalog.ncsu.edu/graduate/natural-resources/forest-biomaterials/forest-biomaterials-phd/)

Faculty

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