

Genetics and Genomics

NC State offers two closely linked interdepartmental graduate programs in Genomic Sciences. All students pursuing degrees in either Bioinformatics and Functional Genomics will take a shared core set of courses that promote breadth of knowledge and encourage interdisciplinary collaboration.

Functional Genomics students focus on laboratory research requiring the collection and interpretation of massive data sets that enhance our knowledge of organismal biology, gene expression, protein and nucleic acid structure and function, and genetic and environmental interactions. Bioinformatics students develop skills to manage and analyze these large and complex "omics" data sets. These two groups of students will be prepared to work seamlessly as parts of teams addressing fundamentally important problems in areas including the biomedical sciences, plant and animal breeding, evolutionary biology, ecology, and toxicology.

Unique and exceptional resources include the Bioinformatics Research Center and the Genome Research Laboratory.

Master's Degree Requirements

Students take a 15-credit core curriculum shared by all students in the Bioinformatics and Functional Genomics degree programs, followed by additional genomics and elective courses. The non-thesis Master of Functional Genomics requires a minimum of 30 credit hours, while the Master of Science in Functional Genomics requires 36 credit hours and a thesis.

Doctoral Degree Requirements

Students take a 15-credit core curriculum shared by all students in the Bioinformatics and Functional Genomics degree programs, followed by additional genomics and elective courses. The Ph.D. in Functional Genomics requires a total of 72 credits, and all students participate in a journal club, monthly seminar series and research ethics training. All PhD students assemble advisory committees including faculty from both Bioinformatics and Functional Genomics to promote effective interdisciplinary research and collaboration, and many students have co-advisors representing different fields.

Student Financial Support

Fellowships are available through the program, and students may also be supported by research and training grants awarded to our faculty members.

More Information

Program Website (<https://brc.ncsu.edu/genomics/functional-genomics/>)

Admission Requirements

Students applying to either the Master's or PhD program in Functional Genomics should have an undergraduate major in the biological or physical sciences, including courses in genetics, biochemistry, and calculus. Previous research experience is a significant advantage.

Applicant Information

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

Application Deadlines

- **Fall:** January 15

Degrees

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Faculty