

# Statistics

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Statistics is a field with limitless potential to change the world — and our graduates are ready to do just that. Our large department offers a unique variety of specializations that allow all students to find the areas of statistics that excite them. We have competitive master's and doctoral programs in which students study and conduct research alongside award-winning faculty to learn the skills they need to be tomorrow's leading statisticians.

## Master's Degree Requirements

All Master of Statistics degrees require a minimum of 30 semester hours. This includes 21 hours of common coursework: ST 517 Applied Statistical Methods I & ST 518 Applied Statistical Methods II, ST 501 Fundamentals of Statistical Inference I & ST 502 Fundamentals of Statistical Inference II, ST 503 Fundamentals of Linear Models and Regression, ST 542 Statistical Practice, and a programming intensive course such as ST 555 Statistical Programming I or ST 558 Data Science for Statisticians. Each specific concentration will have additional requirements and/or electives to reach the minimum credit hours. These requirements are listed on each concentration page, listed below:

- Biostatistics (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-biostatistics-concentration/>)
- Distance Education Track (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-distance-track/>) (Online)
- Environmental Statistics (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-environmental-statistics-concentration/>)
- Financial (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-financial-concentration/>)
- Statistical Genetics (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-statistical-genetics-concentration/>)

## Doctoral Degree Requirements

Students that join our doctoral program with a Master of Statistics from another university are required to have a minimum of 54 credit hours in their doctoral Plan of Work (POW). Students who receive their master's degree from NC State must have a minimum of 72 credit hours on the master's and Ph.D. POWs combined. The POW may include research credit hours (ST 895); however, students are required to take 24 hours of coursework consisting of core courses, a consulting course, and electives as detailed on the degree requirements page (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-phd/>).

## Student Financial Support

Departmental assistantships and fellowships are awarded to students in the Ph.D. program each year on a competitive basis.

## Other Relevant Information

With a large graduate faculty representing virtually all major statistical specializations, the department is recognized as a world leader in graduate education and research in statistics. The Department provides a dynamic environment for teaching, core research and collaborative research across disciplines, with formal program concentrations in biostatistics, bioinformatics, environmental, financial and mathematical statistics.

Statistics Program Website (<https://statistics.sciences.ncsu.edu/graduate/>)

## Admission Requirements

For the Master's program, knowledge of multivariable calculus (comparable to MA 242 at NCSU) and matrix algebra (comparable to MA 305/MA 405 at NCSU) are the minimal requirements for entry. For the PhD program, students are expected to have a good foundation in the material covered in the core courses (ST 701, ST 702, ST 703, ST 704 and ST 705), even if their master's degree was received at another institution. Some students with previous master's degrees find it useful to take these courses at NCSU. However, this tends to lengthen the time to degree. Students are also expected to have had a course comparable to MA 425 Mathematical Analysis I at NCSU.

Students may apply to either the Master or PhD program directly from a Bachelor's degree. GRE General and Subject Tests scores are NOT required for admission to the Statistics Graduate Programs including both master and PhD programs. Due to the differences in student backgrounds, there is a separate admissions process for the online and in-person programs. A completed application consists of:

- An online application form;
- A transcript from each postsecondary institution;
- Three letters of recommendation;
- English proficiency scores (TOEFL or IELTS) if necessary;
- A written personal statement, which should not exceed two pages and should describe the applicant's academic and career goals as well as special interests in the area of statistics;
- A resume or curriculum vita;
- An application fee.

Students wishing to pursue the Ph.D. degree: Apply directly to the Ph.D. program. The master's program is not an intermediate step in that path. Ph.D. applicants are admitted only in the fall semester. Complete applications received by **December 15** will receive highest priority for admission and financial aid. Applications received later than February 15 will rarely be considered.

Students wishing to obtain only a master's degree (not as a route to the Ph.D.):

1. Applicants to the in-person master's degree may choose to start in the summer (late May) or in the fall (August). The summer session courses are offered online, so students would not be required to attend classes on campus until fall. The summer enrollment is only for students who are already in the United States. Fall enrollment is often the best choice for international students.
2. Applicants for the online master's degree are accepted throughout the year and can start any semester.

For the in-person degree, priority is given to applications received by **January 15**. The final deadline is **March 25**. No offers of financial support are provided to master's students. Online degree applications are accepted and reviewed on a rolling basis.

## Applicant Information

### Statistics (MR)

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

### Statistics (MS and PhD)

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

## Application Deadlines

### Statistics PhD

- **Fall:** December 15 (priority); February 15

### Statistics (MR, MS)

- **Fall:** January 15 (Priority); March 25

## Degrees

- Statistics (MR) (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr/>)
- Statistics (MR): Biostatistics Concentration (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-biostatistics-concentration/>)
- Statistics (MR): Distance Track (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-distance-track/>)
- Statistics (MR): Environmental Statistics Concentration (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-environmental-statistics-concentration/>)
- Statistics (MR): Financial Concentration (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-financial-concentration/>)
- Statistics (MR): Statistical Genetics Concentration (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-mr-statistical-genetics-concentration/>)
- Statistics (MS) (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-ms/>)
- Statistics (PhD) (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-phd/>)
- Statistics (Minor) (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-minor/>)
- Applied Statistics and Data Management (Certificate) (<http://catalog.ncsu.edu/graduate/sciences/statistics/applied-statistics-data-management-certificate/>)
- Teaching and Learning Statistics and Data Science (Certificate) (<http://catalog.ncsu.edu/graduate/sciences/statistics/statistics-education-certificate/>)

## Faculty

### Department Head

K. Sellers

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## Associate Department Heads

E. Griffith

W. Lu

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### Director of Statistics Graduate Programs

W. Lu

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### Director of Statistics Undergraduate Programs

S. Muse

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### Director of Online Programs

J. Post

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### Director of Bioinformatics Research Center

F. Wright

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### Director of Bioinformatics Graduate Program

S. Muse

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### R.A. Fisher Distinguished Professor of Statistics

L. Stefanski

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### J. Stuart Hunter Distinguished Professor

M. Davidian

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### Cox Distinguished Professor of Statistics

B. Reich

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### Alumni Distinguished Graduate Professors

M. Davidian

A. Wilson

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## Alumni Distinguished Undergraduate Professors

T. Reiland

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## Goodnight Innovation Distinguished Professor

F. Wright

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## University Distinguished Professor

S. Ghoshal

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## Professors

D.D. Boos

M. Davidian

S. Ghosal

S.K. Ghosh

K. Gross

M. Gumpertz

W. Lu

A. Maity

R. Martin

S. Muse

J. Osborne

B. Reich

K. Sellers

A. Staicu

L.A. Stefanski

J.-Y. Tzeng

A. Wilson

F. Wright

D. Zhang

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## Associate Professors

J. Jeng

D. Martin

T.W. Reiland

E. Schliep

S. Sengupta

C.E. Smith

J. Stallrich

L. Xiao

S. Yang

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## Assistant Professors

A. Booth

E. Hector

N. Josephs

L. Opperman

M. Tang

J. Williams

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## Teaching Associate Professors

J. Duggins

H. McGowan

J. Post

P. Savariappan

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## Teaching Assistant Professors

J. Duggins

E. Meyer

L. Opperman

S. Wang

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## Associate Professor of the Practice

E. Griffith

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## Lecturers

D.Harris

R. Danaher

T. Johnson

M. Winters

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## **Professor Emeriti**

P. Bloomfield

D. Dickey

T. Gerig

M. Gumpertz

J. Hughes-Oliver

J. Monahan

W. Swallow

J. Thorne

A. Tsiatis

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## **Associate and Adjunct Faculty**

H. Bondell

J. Guinness

I. Ipsen

A. Motsinger-Reif

Y. Zhou