

# STATISTICS: BIostatistics, MS

This is a named option in the Statistics MS. (<http://guide.wisc.edu/graduate/statistics/statistics-ms/#text>)

## ADMISSIONS

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Please consult the table below for key information about this degree program’s admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program’s website.

Graduate admissions is a two-step process between academic programs and the Graduate School. **Applicants must meet the minimum requirements (<https://grad.wisc.edu/apply/requirements/>) of the Graduate School as well as the program(s).** Once you have researched the graduate program(s) you are interested in, apply online (<https://grad.wisc.edu/apply/>).

Requirements	Detail
Fall Deadline	January 2
Spring Deadline	The program does not admit in the spring.
Summer Deadline	The program does not admit in the summer.
GRE (Graduate Record Examinations)	Not Required.
English Proficiency Test	Every applicant whose native language is not English, or whose undergraduate instruction was not exclusively in English, must provide an English proficiency test score earned within two years of the anticipated term of enrollment. Refer to the Graduate School: Minimum Requirements for Admission policy: <a href="https://policy.wisc.edu/library/UW-1241">https://policy.wisc.edu/library/UW-1241</a> ( <a href="https://policy.wisc.edu/library/UW-1241/">https://policy.wisc.edu/library/UW-1241/</a> ).
Other Test(s) (e.g., GMAT, MCAT)	n/a
Letters of Recommendation Required	3

Applicants holding a bachelor's degree with a natural science, social science, or engineering major and strong mathematical background are encouraged to apply for admission to the graduate program in statistics. Applicants are advised to undertake graduate work in statistics only if their undergraduate grades in mathematics were uniformly high.

## FUNDING

### FUNDING

#### GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding/>) is available from the Graduate School.

Be sure to check with your program for individual policies and restrictions related to funding.

### PROGRAM RESOURCES

Each option within Statistics has different funding policies and opportunities for students. Please see each option for details.

- Statistics: Applied Statistics, MS (<http://guide.wisc.edu/graduate/statistics/statistics-ms/statistics-applied-statistics-ms/>)
- Statistics: Biostatistics, MS (p. 1)
- Statistics: Statistics and Data Science, MS (<http://guide.wisc.edu/graduate/statistics/statistics-ms/statistics-statistics-data-science-ms/>)
- Statistics: Statistics, MS (<http://guide.wisc.edu/graduate/statistics/statistics-ms/statistics-statistics-ms/>)

## REQUIREMENTS

### MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (<http://guide.wisc.edu/graduate/#policiesandrequirements>), in addition to the program requirements listed below.

### NAMED OPTION REQUIREMENTS

#### MODE OF INSTRUCTION

Face to Face	Evening/ Weekend	Online	Hybrid	Accelerated
Yes	No	No	No	No

#### Mode of Instruction Definitions

**Accelerated:** Accelerated programs are offered at a fast pace that condenses the time to completion. Students typically take enough credits aimed at completing the program in a year or two.

**Evening/Weekend:** Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

**Face-to-Face:** Courses typically meet during weekdays on the UW–Madison Campus.

**Hybrid:** These programs combine face-to-face and online learning formats. Contact the program for more specific information.

**Online:** These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

### CURRICULAR REQUIREMENTS

#### Requirement Detail

Minimum Credit Requirement	30 credits
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Minimum Residence Credit Requirement	16 credits
Minimum Graduate Coursework Requirement	15 credits must be graduate-level coursework. Refer to the Graduate School: Minimum Graduate Coursework (50%) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1244">https://policy.wisc.edu/library/UW-1244</a> ( <a href="https://policy.wisc.edu/library/UW-1244/">https://policy.wisc.edu/library/UW-1244/</a> ).
Overall Graduate GPA Requirement	3.00 GPA required. Refer to the Graduate School: Grade Point Average (GPA) Requirement policy: <a href="https://policy.wisc.edu/library/UW-1203">https://policy.wisc.edu/library/UW-1203</a> ( <a href="https://policy.wisc.edu/library/UW-1203/">https://policy.wisc.edu/library/UW-1203/</a> ).
Other Grade Requirements	A grade of B or better must be received in any course used to fulfill the required and elective course requirements.
Assessments and Examinations	Students must pass a competency test containing both a written and an oral component, demonstrating that they have the potential to be a practicing statistician.
Language Requirements	No language requirements.

## REQUIRED COURSES

Code	Title	Credits
<b>Core</b>		
STAT 609 or STAT/ MATH 709	Mathematical Statistics I Mathematical Statistics	3
STAT 610 or STAT/ MATH 710	Introduction to Statistical Inference Mathematical Statistics	4
STAT 849	Theory and Application of Regression and Analysis of Variance I	3
STAT 850	Theory and Application of Regression and Analysis of Variance II	3
STAT 998	Statistical Consulting	3

### Select 6 or more credits of STAT courses 600 or higher<sup>1</sup>

Must include 6 elective credits in:		
STAT/B M I 641 <i>And</i>	Statistical Methods for Clinical Trials	3
STAT/B M I 642 or STAT/B M I 741 or STAT/B M I 877	Statistical Methods for Epidemiology Survival Analysis Theory and Methods Statistical Methods for Molecular Biology	3

### The following will also be allowed to count toward the 30-credit minimum for the master's degree (with permission of the Director of Graduate Studies)

<i>Up to 6 credits from STAT Courses Numbered:</i>		6
STAT 303	R for Statistics I	
STAT 304	R for Statistics II	
STAT 305	R for Statistics III	
STAT 349	Introduction to Time Series	
STAT 351	Introductory Nonparametric Statistics	

STAT 411	An Introduction to Sample Survey Theory and Methods
STAT 421	Applied Categorical Data Analysis
STAT 433	Data Science with R
STAT 443	Classification and Regression Trees
STAT 451	Introduction to Machine Learning and Statistical Pattern Classification
STAT 453	Introduction to Deep Learning and Generative Models
STAT 456	Applied Multivariate Analysis
STAT 461	Financial Statistics
STAT/ COMP SCI 471	Introduction to Computational Statistics
STAT/COMP SCI/ MATH 475	Introduction to Combinatorics
STAT 479	Special Topics in Statistics
STAT/COMP SCI/ I SY E/MATH 525	Linear Optimization
STAT 575	Statistical Methods for Spatial Data

*Courses that cover the same or similar topic at the undergraduate- and graduate-level may both be used towards the MS requirements. If both courses are to be used, the undergraduate level course must be completed first for both courses to be counted. Otherwise, only the graduate level course will be counted. Please note that this policy does not preclude students from taking just the undergraduate or just the graduate version of a topic. These combinations would include STAT 349 Introduction to Time Series and STAT 701 Applied Time Series Analysis, Forecasting and Control I; STAT 351 Introductory Nonparametric Statistics and STAT 809 Non Parametric Statistics; STAT 456 Applied Multivariate Analysis and STAT 760 Multivariate Analysis I; STAT 443 Classification and Regression Trees and STAT 761 Decision Trees for Multivariate Analysis; STAT 451 Introduction to Machine Learning and Statistical Pattern Classification and STAT 615 Statistical Learning; and STAT/COMP SCI 471 Introduction to Computational Statistics and STAT 771 Statistical Computing. This will also apply to special topics courses that have similar topics between the undergraduate and graduate level.*

**Up to 6 credits of graduate courses outside of STAT in consultation with advisor. 0-6**

**Up to 6 credits of STAT 699 in consultation with advisor. 0-6**

**Total Credits 30**

<sup>1</sup> Courses that do not satisfy this requirement are: STAT 601 Statistical Methods I, STAT 602 Statistical Methods II, STAT 609 Mathematical Statistics I, STAT 610 Introduction to Statistical Inference, STAT 628 Data Science Practicum, STAT 678 Introduction to Statistical Consulting, STAT 699 Directed Study, STAT/MATH 709 Mathematical Statistics, STAT/MATH 710 Mathematical Statistics, STAT 849 Theory and Application of Regression and Analysis of Variance I, STAT 850 Theory and Application of Regression and Analysis of Variance II, or STAT 998 Statistical Consulting

## POLICIES

### GRADUATE SCHOOL POLICIES

The Graduate School's Academic Policies and Procedures (<https://grad.wisc.edu/acadpolicy/>) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

### NAMED OPTION-SPECIFIC POLICIES

#### PRIOR COURSEWORK

##### Graduate Credits Earned at Other Institutions

With program approval, students are allowed to transfer no more than 9 credits of graduate coursework from other institutions toward the graduate degree credit and graduate coursework (50%) requirements. Coursework earned ten or more years prior to admission to a master's degree is not allowed to satisfy requirements.

##### Undergraduate Credits Earned at Other Institutions or UW-Madison

With program approval, up to 6 Statistics credits from a UW-Madison undergraduate degree in coursework numbered 600 or above are allowed to transfer for minimum graduate degree credits. Coursework earned ten or more years prior to admission to a master's degree is not allowed to satisfy requirements.

##### Credits Earned as a Professional Student at UW-Madison (Law, Medicine, Pharmacy, and Veterinary careers)

Refer to the Graduate School: Transfer Credits for Prior Coursework (<https://policy.wisc.edu/library/UW-1216/>) policy.

##### Credits Earned as a University Special Student at UW-Madison

With program approval, up to 14 Statistics credits completed at UW-Madison while a University Special student in coursework numbered 300 or above are allowed to transfer for the minimum graduate degree credit requirement. Of these credits, those numbered 700 or above are taken to meet the requirements of a capstone certificate and has the "Grad 50%" attribute may also transfer for the minimum graduate coursework (50%) requirement. Coursework earned ten or more years prior to admission to a master's degree is not allowed to satisfy requirements.

#### PROBATION

Three consecutive reviews in which a student fails to meet the minimum criteria for satisfactory progress will result in the student being dropped from the program. Contact the program for more information.

#### ADVISOR / COMMITTEE

Students are required to meet with their advisor near the beginning of each semester to discuss course selection and progress.

#### CREDITS PER TERM ALLOWED

15 credits

#### TIME LIMITS

The competency test must be passed within six semesters after entering the department.

#### GRIEVANCES AND APPEALS

These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (<https://doso.students.wisc.edu/bias-or-hate-reporting/>)
- Graduate Assistantship Policies and Procedures (<https://hr.wisc.edu/policies/gapp/#grievance-procedure>)
- Hostile and Intimidating Behavior Policies and Procedures (<https://hr.wisc.edu/hib/>)
  - Office of the Provost for Faculty and Staff Affairs (<https://facstaff.provost.wisc.edu/>)
- Employee Assistance (<http://www.eao.wisc.edu/>) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (<https://employeeabilities.wisc.edu/>) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (<https://grad.wisc.edu/>) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (<https://compliance.wisc.edu/>) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office Student Assistance and Support (OSAS) (<https://osas.wisc.edu/>) (for all students to seek grievance assistance and support)
- Office of Student Conduct and Community Standards (<https://conduct.students.wisc.edu/>) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (<http://www.ombuds.wisc.edu/>) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (<https://compliance.wisc.edu/titleix/>) (for concerns about discrimination)

Students should contact the department chair or program director with questions about grievances. They may also contact the L&S Academic Divisional Associate Deans, the L&S Associate Dean for Teaching and Learning Administration, or the L&S Director of Human Resources.

#### OTHER

Students pursuing the general statistics and biostatistics options are considered for department financial support and may seek a dual degree if desired.

## PROFESSIONAL DEVELOPMENT

### PROFESSIONAL DEVELOPMENT GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.

## PEOPLE

PEOPLE  
FACULTY

Cecile Ane (<https://stat.wisc.edu/staff/ane-cecile/>), Professor

Joshua Cape (<https://stat.wisc.edu/staff/cape-joshua/>), Assistant Professor

Richard Chappell (<https://stat.wisc.edu/staff/chappell-rick/>), Professor

Peter Chien (<https://stat.wisc.edu/staff/chien-peter/>), Professor

Jessi Cisewski-Kehe (<https://stat.wisc.edu/staff/cisewski-kehe-jessi/>), Assistant Professor

Sameer Deshapande (<https://stat.wisc.edu/staff/deshpande-sameer/>), Assistant Professor

Rishabh Dudeja (<https://stat.wisc.edu/staff/dudeja-rishabh/>), Assistant Professor

Nicolas Garcia Trillos (<https://stat.wisc.edu/staff/trillos-nicolas-garcia/>), Assistant Professor

Chris Geoga (<https://stat.wisc.edu/staff/geoga-chris/>), Assistant Professor

Yongyi Guo (<https://stat.wisc.edu/staff/guo-yongyi/>), Assistant Professor

Yinqiu He (<https://stat.wisc.edu/staff/he-yinqiu/>), Assistant Professor

Hyunseung Kang (<https://stat.wisc.edu/staff/kang-hyunseung/>), Associate Professor

Matthias Katzfuss (<https://stat.wisc.edu/staff/katzfuss-matthias/>), Professor

Sunduz Keles (<https://stat.wisc.edu/staff/keles-sunduz/>), Professor

Bret Larget (<https://stat.wisc.edu/staff/larget-bret/>), Professor

Keith Levin (<https://stat.wisc.edu/staff/levin-keith/>), Assistant Professor

Wei-Yin Loh (<https://stat.wisc.edu/staff/loh-wei-yin/>), Professor

Michael Newton (<https://stat.wisc.edu/staff/newton-michael/>), Professor

Vivak Patel (<https://stat.wisc.edu/staff/patel-vivak/>), Assistant Professor

Alejandra Quintos (<https://stat.wisc.edu/staff/quintos-alejandra/>), Assistant Professor

Garvesh Raskutti (<https://stat.wisc.edu/staff/raskutti-garvesh/>), Associate Professor

Karl Rohe (<https://stat.wisc.edu/staff/rohe-karl/>), Professor

Kris Sankaran (<https://stat.wisc.edu/staff/sankaran-kris/>), Assistant Professor

Jun Shao (<https://stat.wisc.edu/staff/shao-jun/>), Professor

Miaoyan Wang (<https://stat.wisc.edu/staff/wang-miaoyan/>), Assistant Professor

Yahzen Wang (<https://stat.wisc.edu/staff/wang-yazhen/>) (chair), Professor

Chunming Zhang (<https://stat.wisc.edu/staff/zhang-chunming/>), Professor

Yiqiao Zhong (<https://stat.wisc.edu/staff/zhong-yiqiao/>), Assistant Professor

Jun Zhu (<https://stat.wisc.edu/staff/zhu-jun/>), Professor