

BIOMETRY, M.S.

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.

MAJOR 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 are able to complete a program with minimal disruptions to careers and other commitments.

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

Requirements Detail

Minimum Credit Requirement 30 credits

Minimum Residence Credit Requirement 16 credits

Minimum Graduate Coursework Requirement At least half of degree coursework (15 credits out of 30 total credits) must be completed in statistics courses numbered 600 or above (which the statistics department considers to be graduate courses).

Overall Graduate GPA Requirement 3.00 GPA required.

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 Candidates must complete a project with an emphasis on the integration of statistics and science. A final oral examination is also required upon completion of the coursework and project.

Language Requirements No language requirements.

REQUIRED COURSES

Code	Title	Credits
Required Coursework		
<i>Intro Math Stat, completed using one of the following sequences:</i>		6
STAT/MATH 309 & STAT/MATH 310	Introduction to Probability and Mathematical Statistics I and Introduction to Probability and Mathematical Statistics II	
STAT 311 & STAT 312	Introduction to Theory and Methods of Mathematical Statistics I and Introduction to Theory and Methods of Mathematical Statistics II	
Or equivalent one-year sequence		
<i>Statistics 600+</i>		6
Students choose graduate-level courses numbered above 600. ¹		
<i>Statistics 500+</i>		3
Students choose graduate-level courses numbered above 500. ²		
<i>Biological</i> ³		9
<i>Consulting Experience</i>		
STAT 699 Research ⁵	Directed Study ⁴	3
		3
Total Credits		30

1

Excluding STAT/B M I 641 Statistical Methods for Clinical Trials, STAT 698 Directed Study, STAT 699 Directed Study, and STAT 990 Research.

2

Excluding STAT/F&W ECOL/HORT 571 Statistical Methods for Bioscience I, STAT/F&W ECOL/HORT 572 Statistical Methods for Bioscience II, STAT 698 Directed Study, and STAT 990 Research. Credits from suitable quantitative courses taught in other (non-biological) departments (e.g., mathematics) may be substituted.

3

Excluding introductory statistics courses and research. Other criteria are that at least six credits are taken in a single discipline or in closely related disciplines, at least six credits are taken at the 700 level and above or in courses specifically designated as graduate courses, and a maximum of three credits are obtained in statistically oriented courses (e.g., AGRONOMY/HORT 811 Biometrical Procedures in Plant Breeding).

4

Students must complete 3 credits of STAT 699 Directed Study by consulting in two ways: 1) students may complete hours in one of several approved campus statistically related consulting services (e.g., the CALS Statistical Consulting Facility, Data Science Hub, Social Science Computing Cooperative or other as approved by Biometry program chair) or, (2) students may complete hours through a project with an individual PI that is approved by the Biometry program chair. This consists of supervised consulting and will provide exposure to statistical issues surrounding a broad range of problems in biology, provide awareness of practical issues such as experiment management, data collection, data recording, etc., and provide experience assisting others in designing experiments and analyzing data. Three credits are roughly equivalent to a single project that can be completed in one semester, and involves about 135 hours of effort, including meetings with consulting clients, background research, data analyses, etc.

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Each student must complete a project that represents an original contribution to biometry. Examples of such contributions may include a novel analysis of some interesting biological data, the creation and evaluation of a useful experimental design, or the development and/or comparison of statistical methods. The project results are to be presented in a manuscript with emphasis on the integration of statistics and science. The manuscript should be of a quality that can lead to a publication.

Students may fulfill this project/manuscript requirement, which is not formally deposited with the Graduate School, by submitting a manuscript to and having an oral examination with their two co-advisors and a third faculty member from an applied area of scholarship. This may be accomplished in several ways: First, students who are also pursuing a PhD may use methodology or data analysis sections of their dissertation to fulfill this requirement. In this case, the Biometry MS oral examination may be concurrent with or at a similar time to the dissertation oral defense to satisfy this requirement.

Second, for a student seeking a double M.S., a joint project report and oral examination by their Biometry MS committee would satisfy this requirement.

Third, students may complete an independent project and manuscript and have their oral examination to satisfy this requirement.

This requirement will be formalized by enrolling in at least three credits of "Research" (e.g. STAT 990 Research or in another department (e.g. HORT 990 Research) in the department of one of the co-advisors. Students who are concurrently pursuing a PhD may wish to register for research credits in their PhD home department with their co-advisors. (These credits cannot be used for meeting other requirements.) For a student seeking a double M.S., a joint thesis would satisfy this requirement.