STATISTICS, DOCTORAL MINOR

ADMISSIONS

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All graduate students must utilize the Graduate Student Portal in MyUW to add, change, or discontinue any doctoral minor. To apply to this minor, please log in to MyUW, click on Graduate Student Portal, and then click on Add/Change Programs. Then submit this form (https://uwmadison.co1.qualtrics.com/jfe/form/SV_74k1ymmOt7tl217/) to have your program of study approved.

For admission for an Option A Minor in statistics, the candidate must have had at least one year of calculus, and an introductory knowledge of statistics that is satisfactory to the department. Any of the following (or an equivalent course) is sufficient for this purpose:

Code	Title	Credits
STAT 240	Data Science Modeling I	4
STAT 301	Introduction to Statistical Methods	3
STAT 324	Introduction to Statistics for Science and Engineering	3
STAT 371	Introductory Applied Statistics for the Life Sciences	3
STAT/B M I 541	Introduction to Biostatistics	3
STAT/F&W ECOL 571	Statistical Methods for Bioscience I	4

REQUIREMENTS

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Please carefully read the requirements below. Requests for further information should be addressed to the Doctoral Minor Advisor in the Department of Statistics. **Note**: Candidates for an Option A Minor in Statistics must be aware of the Graduate School "Minors" policy (https://grad.wisc.edu/documents/minors/). For further information please visit the Statistics Doctoral Minor (https://stat.wisc.edu/statistics-doctoral-minor/) link.

The student should have a program of study **approved** by the Doctoral Minor Advisor in the Department of Statistics and the student's major advisor, **early in the student's graduate work**. The proposed program should be submitted to and approved by the minor program advisor in statistics **upon, or before, the completion of 6 credits.**

Please see Guide Admissions/How to Get In tab for specific details on how to declare.

GRADE REQUIREMENT

Students must achieve a 3.00 GPA in courses used to satisfy the minor requirement.

REQUIRED COURSES

Students must complete at least four courses totaling 12 or more credits. Courses must be selected from the following four lists. Students must take at least one course from List 1, and may take at most one course from each of Lists 2, 3, 4.

Code	Title	Credits
List 1: Methodological, computational, and applied Statistics elective courses (at least one course)		
STAT 303	R for Statistics I	1
STAT 304	R for Statistics II	1
STAT 305	R for Statistics III	1
STAT 333	Applied Regression Analysis	3
STAT 340	Data Science Modeling II	4
STAT 349	Introduction to Time Series	3
STAT 351	Introductory Nonparametric Statistics	3
STAT 405	Data Science Computing Project	3
STAT 436	Statistical Data Visualization	3
STAT 411	An Introduction to Sample Survey Theory and Methods	3
STAT 421	Applied Categorical Data Analysis	3
STAT/M E 424	Statistical Experimental Design	3
STAT 433	Data Science with R	3
STAT 443	Classification and Regression Trees	3
STAT 451	Introduction to Machine Learning and Statistical Pattern Classification	3
STAT 453	Introduction to Deep Learning and Generative Models	3
STAT 456	Applied Multivariate Analysis	3
STAT 461	Financial Statistics	3
STAT/COMP SCI 471	Introduction to Computational Statistics	3
STAT 479	Special Topics in Statistics	1-3
STAT/B M I 542	Introduction to Clinical Trials I	3
STAT/F&W ECOL 572	Statistical Methods for Bioscience II	4
STAT 575	Statistical Methods for Spatial Data	3
STAT/B M I 620	Statistics in Human Genetics	3
STAT/B M I 641	Statistical Methods for Clinical Trials	3
STAT/B M I 642	Statistical Methods for Epidemiology	3
STAT/B M I 643	Clinical Trial Design, Implementation, and Analysis	3
STAT 679	Special Topics in Statistics	1-3
STAT 701	Applied Time Series Analysis, Forecasting and Control I	3
STAT/B M I 727	Theory and Methods of Longitudinal Data Analysis	3
STAT 732	Large Sample Theory of Statistical Inference	3
STAT/B M I 741	Survival Analysis Theory and Methods	3
STAT 760	Multivariate Analysis I	3
STAT 761	Decision Trees for Multivariate Analysis	3
STAT/B M I 768	Statistical Methods for Medical Image Analysis	3

STAT 772	Linear Randomized Algorithms for Data Science	3
STAT 771	Computational Statistics	4
STAT/ECON/ GEN BUS 775	Bayesian Statistics	3
STAT 780	Introduction to Quantum Data Science	3
STAT 801	Advanced Financial Statistics	3
STAT/MATH 803	Experimental Design I	3
STAT 809	Non Parametric Statistics	3
STAT 834	Empirical Processes and Semiparametric Inference	1-3
STAT 841	Nonparametric Statistics and Machine Learning Methods	3
STAT 849	Advanced Statistical Methods	4
STAT 850		3
STAT/COMP SCI/ E C E 861	Theoretical Foundations of Machine Learning	3
STAT/B M I 877	Statistical Methods for Molecular Biology	3
STAT/E C E/ MATH 888	Topics in Mathematical Data Science	1-3
STAT 992	Seminar	1-3
List 2: Probability courses (at most one course)		
STAT/MATH 309	Introduction to Probability and Mathematical Statistics I	3
STAT 311	Introduction to Theory and Methods of Mathematical Statistics I	3
STAT/MATH 431	Introduction to the Theory of Probability	3
STAT 609	Mathematical Statistics I	3
STAT/MATH 709	Mathematical Statistics I	4
STAT/MATH 733	Theory of Probability I	3
List 3: Statistical inference courses (at most one course)		
STAT/MATH 310	Introduction to Probability and Mathematical Statistics II	3
STAT 312	Introduction to Theory and Methods of Mathematical Statistics II	3
STAT 610	Introduction to Statistical Inference	4
STAT/MATH 710	Mathematical Statistics II	4
List 4: Other electives (at most one course)		
STAT/COMP SCI/ MATH 475	Introduction to Combinatorics	3
STAT/COMP SCI/ I SY E/MATH 525	Linear Optimization	3
STAT/I SY E/MATH/ OTM 632	Introduction to Stochastic Processes	3
STAT/COMP SCI/ I SY E/MATH 726	Nonlinear Optimization I	3
STAT/MATH 734	Theory of Probability II	3
STAT/MATH 833	Topics in the Theory of Probability	3

OR another course approved by the PhD minor advisor.