STATISTICS: STATISTICS AND DATA SCIENCE, M.S.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), 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	Yes

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	Half of degree coursework (15 credits out of 30 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (https://registrar.wisc.edu/course-guide (https://registrar.wisc.edu/course-guide/)/).
Overall Graduate GPA Requirement	3.00 GPA required.
Other Grade Requirements	Students may only have one core course (STAT 601, STAT 602, STAT 610, or STAT 615) with a grade below B.
Assessments and Examinations	None.
Language Requirements	No language requirements.

REQUIRED COURSES

Code	Title	Credits
Required Courses:		
STAT 601	Statistical Methods I	4
STAT 602	Statistical Methods II	4
STAT 610	Introduction to Statistical Inference	4
STAT 615	Statistical Learning	3
Professional Skills Courses (6 credits minimum from the following courses):		**6**
STAT 605	Data Science Computing Project	
STAT 627	Professional Skills in Data Science	
STAT 628	Data Science Practicum	
Students may substitute a required course (STAT 601, STAT 602, STAT 605, STAT 610, STAT 615, STAT 628) with a Statistics taught 600+ level course with advisor approval		
9 elective credits:		**9**
Students may count up to 3 credits of Statistics undergraduate electives including:		
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 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 479	Special Topics in Statistics	
STAT 575	Statistical Methods for Spatial Data	
Students may count up to 3 credits of 500-level or above coursework taught outside of Statistics with advisor approval from the following courses: MATH/I SY E/OTM/ STAT 632; COMP SCI 540, 577, 640, 726, 838. Students are not guaranteed a seat in an elective course taught from outside of the Statistics department. They must obtain departmental permission to enroll.		

Student must have at least 3 credits of coursework at the 600-level or above taught within Statistics including the following:

STAT 609	Mathematical Statistics I
STAT/B M I 641	Statistical Methods for Clinical Trials
STAT/B M I 642	Statistical Methods for Epidemiology
STAT 679	Special Topics in Statistics (may be repeated with different topic titles)
STAT 701	Applied Time Series Analysis, Forecasting and Control I
STAT/MATH 709	Mathematical Statistics
STAT/MATH 710	Mathematical Statistics
STAT 732	Large Sample Theory of Statistical Inference
STAT/B M I 741	Survival Analysis Theory and Methods
STAT 760	Multivariate Analysis I
STAT 761	Decision Trees for Multivariate Analysis
STAT/B M I 768	Statistical Methods for Medical Image Analysis
STAT 771	Statistical Computing
STAT/ECON/ GEN BUS 775	Introduction to Bayesian Decision and Control I
STAT/MATH 803	Experimental Design I
STAT 809	Non Parametric Statistics
STAT 811	Sample Survey Theory and Method
STAT 834	Empirical Processes and Semiparametric Inference
STAT 840	Statistical Model Building and Learning
STAT 841	Nonparametric Statistics and Machine Learning Methods
STAT 860	Estimation of Functions from Data
STAT/B M I 877	Statistical Methods for Molecular Biology
STAT 992	Seminar
Total Credits	**30**

GRADUATE AND UNDERGRADUATE COURSES WITH SIMILAR TOPICS

Courses that cover the same or similar topic at the undergraduate- and graduate-level may both be used towards the MSDS requirements, but if both courses are to be used, the undergraduate level course must be completed first. 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 411 An Introduction to Sample Survey Theory and Methods and STAT 732 Large Sample Theory of Statistical Inference, 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.

Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate, graduate or certificate programs.