

## MSDS Electives Offered in Spring 2026

Reminder that all MSDS students must take 13 credits of electives to satisfy MSDS program requirements.

Course descriptions can be found in the [Graduate Guide for MSDS](#).

Please note that every course students take in the MSDS program (excluding the final semester of enrollment) will be counted towards MSDS program requirements. It is not allowed to take a course and not count it towards the minimum required 30 credits.

### **Statistics-taught Undergraduate electives (may count maximum of 3 credits towards MSDS requirements)**

- STAT 303, 304, 305 LEC 002 **or** LEC 004 R for Statistics I, II, III (1 cr each)
  - Students who have no prior experience with R are strongly encouraged to take these three modular courses
  - If you have previous coursework to one of these courses and would like permission to enroll in a later level, email [visp-msds@stat.wisc.edu](mailto:visp-msds@stat.wisc.edu) the course syllabus
  - Can count as undergraduate credit or as 13th graduate-level electives credit
  - Note that STAT 304 and 305 are offering only LEC 004 in Spring 2026
- STAT 405 LEC 001 Data Science Computing Project (3 cr)
- STAT 436 LEC 002 Statistics Data Visualization (3 cr)
- STAT 443 LEC 002 Classification and Regression Trees (3 cr)
- STAT 451 LEC 002 Introduction to Machine Learning and Statistical Pattern Classification (3 cr)
- STAT 453 LEC 002 Introduction to Deep Learning and Generative Models (3 cr)
- STAT 456 LEC 002 Applied Multivariate Analysis (3 cr)
- STAT 479 LEC 002 Feature selection in statistical machine learning (3 cr)
- STAT 479 LEC 004 Interpretable Machine Learning (3 cr)
- STAT 479 LEC 008 Introduction to Causal Inference in Data Analysis (3 cr)

We ask that all MSDS students enroll and waitlist *no more than 1 of the above electives*. **Per the MSDS student handbook, students who have already taken an undergraduate elective cannot take another.** We do not have the capacity to accommodate additional undergraduate electives for MSDS students and students will not be allowed to count a second undergrad elective towards their degree. (Note: Students may select one additional 1-credit elective to meet the required 13 credits of electives from the [list in the Guide](#).)

STAT 479 special topics courses may be repeated for credit if students enroll in different topics. If a student has previously taken a 479 topic, that same topic is not repeatable for credit (e.g. STAT 479 Evaluating Methodological Errors in Research in Fall 2023, may not take again in a future term).

### **Statistics-taught 600+ Graduate electives (must take minimum 3 credits to satisfy MSDS requirements)**

- STAT 606 LEC 001 Computing in Data Science and Statistics (3 cr)
- STAT 620 LEC 001 Statistics in Human Genetics (3 cr)
- STAT 679 LEC 001 Manifold Learning and Dimension Reduction for Complex Data (1 cr)

- STAT 679 LEC 002 Spatial Stats for Lattice Data (1 cr)
- STAT 710 LEC 001 DIS 311
  - MSDS students who have completed STAT 709 can enroll after 10:00 AM on December 1.
- STAT 741 LEC 001 Survival Analysis Theory and Methods (3 cr)
- STAT 768 LEC 001 Statistical Methods for Medical Image Analysis (3 cr)
- STAT 771 LEC 001 DIS 311 Computational Statistics (4 cr)
- STAT 775 LEC 001 Bayesian Statistics (3 cr)
- STAT 992 LEC 002 Foundation Models for Biomedical Data (3 cr)
  - Note: Consent of instructor prerequisite
- STAT 992 LEC 004 Statistical Reinforcement Learning and Adaptive Experimentation (1 cr)
- STAT 992 LEC 005 Science of Large Language Models (1 cr)
  - Note: Consent of instructor prerequisite
- STAT 992 LEC 006 Topics in Missing Data (1 cr)

Research (i.e. STAT 990) is not available to MSDS students.

All MSDS students must take at least one Statistics taught graduate elective and may take more than one such course to count towards the required 13 credits of electives. Enrollment errors due to a course prerequisite? Please email Alissa ([courses@stat.wisc.edu](mailto:courses@stat.wisc.edu)), include your 10-digit student ID number and that you are in MSDS).

#### **Statistics-taught electives that can count toward 13th electives credit**

- STAT 303, 304, 305 R for Statistics I, II, III (1 cr each)
  - Students who have no prior experience with R are strongly encouraged to take these three modular courses
  - If you have previous coursework to one of these courses and would like permission to enroll in a later level, email [visp-msds@stat.wisc.edu](mailto:visp-msds@stat.wisc.edu) the course syllabus
  - Can count as undergraduate credit or as 13th graduate-level electives credit
  - Note that STAT 304 and 305 are offering only LEC 004 in Spring 2026
- STAT 403 LEC 001 Internship Course in Comp Sci and Data Science (1 cr)
  - MSDS students may count up to 1 credit of STAT 403 toward degree requirements
  - Can count as undergraduate credit or as 13th graduate-level electives credit
- STAT 679 LEC 001 Manifold Learning and Dimension Reduction for Complex Data (1 cr)
- STAT 679 LEC 002 Spatial Stats for Lattice Data (1 cr)
- STAT 699 Directed Study (1 cr)
  - Note: Maximum 2 credits of STAT 699 are allowed
- STAT 992 LEC 004 Statistical Reinforcement Learning and Adaptive Experimentation (1 cr)
- STAT 992 LEC 005 Science of Large Language Models (1 cr)
  - Note: Consent of instructor prerequisite
- STAT 992 LEC 006 Topics in Missing Data (1 cr)

**Approved 500+ Graduate-level electives taught outside the Statistics department (may count 1 course, maximum of 4 credits, toward MSDS requirements)**

Should a student choose to enroll in a 3- or 4-credit graduate level (500+) elective course taught outside of the department, it must be approved by the MSDS coordinator. These include courses cross listed with Statistics but taught by other departments. Courses will be approved during spring course survey plans.

Commonly approved outside elective courses in prior semesters have included: MATH 632; COMP SCI 540, 577, 640, 726, 766; among others. Please feel free to contact the MSDS program coordinator if you have questions: [visp-msds@stat.wisc.edu](mailto:visp-msds@stat.wisc.edu).

There are some courses, i.e. COMP SCI 760 and 761, that are not approved courses for MSDS students, as they are too similar in content to STAT 615.