

# Data Science Undergraduate Programs

University of Wisconsin-Madison



## WHAT IS DATA SCIENCE?

An interdisciplinary field that combines computational, mathematical, and statistical thinking to data-rich problems in a wide range of domains. It is the process of making meaning and extracting knowledge from large datasets in order to make predictions and optimize searches.

### POSSIBLE DOMAIN AREAS

- Business & Economics
- Communications
- Engineering & Information Systems
- Health Sciences
- Sports
- Social Sciences

## WHAT CAN I DO WITH DATA SCIENCE?

Gain data analysis, programming, and management skills to solve big data questions in a responsible and ethical manner.



**Department of Statistics**  
SCHOOL OF COMPUTER, DATA & INFORMATION SCIENCES  
UNIVERSITY OF WISCONSIN-MADISON

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## DATA SCIENCE MAJOR

*Good fit for students who enjoy advanced math and programming, desire to seek out data science opportunities in domain areas, and wish to develop data science tools.*

### MAJOR FOUNDATION COURSES

(7 courses at 27-29 credits)

- **Math Foundation:** Calculus 1 & 2
- **Data Science Foundation:**
  - 2 semesters of R programming
  - 2 semesters of Python programming
  - Data Ethics & Policy

### MAJOR ELECTIVE COURSES

(6 courses at 18 credits)

*One course minimum from each category*

- Machine learning
- Advanced computing
- Statistical modeling
- Linear algebra

## DATA SCIENCE CERTIFICATE

*Good fit for students who like programming, wish to gain data analysis skills and wish to be a high-end user of data science tools.*

### FOUNDATION COURSES

(3 courses at 10-12 credits)

- 2 programming courses  
(Choice of R and/or Python)
- 1 Data Ethics & Policy course

### ELECTIVE COURSES

(2 courses at 6 credits)

- 1 Elective in Fundamental Category
- 1 Elective in Fundamental or Domain Category

## Contact Information

Visit our department website at <https://stat.wisc.edu/> or email us below.

Full curriculum is available at <https://go.wisc.edu/fwpi4b>.

### Data Science Major

dsmajor@stat.wisc.edu

### Data Science Certificate

dscert@stat.wisc.edu