

[ARCHIVED CATALOG]

## Data Science, B.S.

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[Program Learning Outcomes and Educational Effectiveness Evaluation Plans for B.S. in Data Science.](#)

Students pursuing the B.S. in Data Science are required to:

- Earn an overall GPA of 2.500 for all required lower-division major courses.
- Earn an overall GPA of 2.000 for all required major courses.
- Complete all courses in the major for a letter grade of “C-” or higher, except those where the default grading option is P/NP.
- Complete a minimum of 21 credits from upper division courses in the major.

Majors are required to enroll in [FFC 100B - First Year Foundations: Grand Challenges in Science and Engineering](#) to satisfy their General Education requirement.

### Grand Challenges Initiative (3 credits)

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- [SCI 150 - Grand Challenges in Science and Engineering I](#) 1 credit
- [SCI 200 - Grand Challenges in Science and Engineering II](#) 1 credit
- [SCI 250 - Grand Challenges in Science and Engineering III](#) 1 credit

### lower-division requirements (27 credits)

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- [ENGR 101 - Foundations of Design and Fabrication](#) 3 credits
- [MATH 110 - Single Variable Calculus I](#) 3 credits
- [ECON 200 - Principles of Microeconomics](#) 3 credits
- [MATH 203 - Introduction to Statistics](#) 3 credits
- [MGSC 220 - Foundations of Business Analytics](#) 3 credits
- [CPSC 230 - Computer Science I](#) 3 credits
- [CPSC 231 - Computer Science II](#) 3 credits
- [CPSC 285 - Social and Ethical Issues in Computing](#) 3 credits

- [CPSC 293 - Mathematical Foundations of Machine Learning](#) 3 credits

## colloquium requirement (6 credits)

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Students must complete six 1-credit sections of [CPSC 298 - Computer Science Colloquium](#).

## upper-division requirements (30 credits)

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- [MGSC 310 - Statistical Models in Business Analytics](#) 3 credits
- [CPSC 349 - Human Factors](#) 3 credits
- [CPSC 350 - Data Structures and Algorithms](#) 3 credits
- [CPSC 353 - Data Communications and Computer Networks](#) 3 credits
- [CPSC 355 - Human Computer Interaction](#) 3 credits
- [CPSC 390 - Artificial Intelligence](#) 3 credits
- [CPSC 392 - Introduction to Data Science](#) 3 credits
- [CPSC 393 - Machine Learning](#) 3 credits
- [CPSC 408 - Database Management](#) 3 credits
- [MGSC 410 - Applied Business Analytics](#) 3 credits

## electives (9 credits)

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three of the following

- [ENGR 300 - 3D Printing and Design](#) 3 credits
- [MATH 303 - Biostatistics](#) 3 credits
- [ENV 310 - Geographic Information Systems, Lecture and Laboratory](#) 4 credits
- [CPSC 356 - Android Application Development](#) 3 credits
- [CPSC 357 - iOS Application Development](#) 3 credits
- [CPSC 358 - Assistive Technology](#) 3 credits
- [CPSC 359 - Computer-Supported Cooperative Work](#) 3 credits
- [MATH 360 - Probability Theory](#) 3 credits
- [MATH 361 - Mathematical Statistics](#) 3 credits
- [ISP 363 - Cybersecurity 1](#) 3 credits
- [MGSC 406 - Advanced Experimental Design and Statistics](#) 3 credits
- [CPSC 430 - Computational Economics](#) 4 credits
- [CPSC 435 - BioMedical Informatics](#) 3 credits
- [CPSC 445 - High Performance Computing](#) 3 credits

- [ECON 452 - Econometrics](#) **3 credits**
- [CPSC 458 - Web Engineering](#) **3 credits**
- [MGSC 496 - Special Topics in Management Science](#) **3 credits** (Applied Analytics and Decision Making)

**total credits 75**

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