DATA SCIENCE

Contact Information
Data Science
https://datascience.rice.edu

For additional information regarding the Data Science minor at Rice University, please see the program's website: https://datascience.rice.edu

Minor
- Minor in Data Science (ga.rice.edu/programs-study/departments-programs/engineering/data-science/data-science-minor)

Data Science does not currently offer an academic program at the graduate level.

Chairs
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For Rice University degree-granting programs:
To view the list of official course offerings, please see Rice's Course Catalog (https://courses.rice.edu/admweb/!SWKSCAT.cat?p_action=cata)
To view the most recent semester's course schedule, please see Rice's Course Schedule (https://courses.rice.edu/admweb/!SWKSCAT.cat)

DSCI 301 - PROBABILITY AND STATISTICS FOR DATA SCIENCE
Short Title: STATISTICS FOR DATA SCIENCE
Department: Data Science
Grade Mode: Standard Letter
Course Type: Lecture/Laboratory
Distribution Group: Distribution Group III
Credit Hours: 4
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): MATH 102 or MATH 106 or MATH 112
Description: An introduction to mathematical statistics and computation for applications to data science. Topics include probability, random variables expectation, sampling distributions, estimation, confidence intervals, hypothesis testing and regression. A weekly lab will cover the statistical package, R, and data projects. Cross-list: STAT 315. Recommended Prerequisite(s): MATH 212. Mutually Exclusive: Credit cannot be earned for DSCI 301 and ECON 307/STAT 310.

DSCI 302 - INTRODUCTION TO DATA SCIENCE TOOLS AND MODELS
Short Title: DATA SCIENCE TOOLS AND MODELS
Department: Data Science
Grade Mode: Standard Letter
Course Type: Lecture
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Upper-Level
Prerequisite(s): COMP 140 and (STAT 310 or STAT 315)
Description: This course introduces key concepts in data management, preparation, and modeling and provides students with hands-on experience in performing these tasks using modern tools, including relational databases and Spark. Models covered include linear and logistic regression and gradient descent. For registration purposes, COMP 140 is a required prerequisite for this course. With instructor permission, students that have taken CAAM 210 (or another applicable course) may be allowed to special register for this course. Students seeking this instructor permission (to waive or substitute the COMP 140 prerequisite requirement) are expected to know the Python programming language, and may be required to demonstrate proficiency.

DSCI 305 - DATA, ETHICS, AND SOCIETY
Short Title: DATA, ETHICS, AND SOCIETY
Department: Data Science
Grade Mode: Standard Letter
Course Type: Seminar
Credit Hours: 3
Restrictions: Enrollment is limited to Undergraduate, Undergraduate Professional or Visiting Undergraduate level students.
Course Level: Undergraduate Upper-Level
Description: An examination of the ethical implications and societal impacts of choices made by data science professionals. The course will provide practical guidance on evaluating ethical concerns, identifying the potential for harm, and applying best practices to protect privacy, design responsible algorithms, and increase the societal benefit of data science research.

Description and Code Legend
Note: Internally, the university uses the following descriptions, codes, and abbreviations for this academic program. The following is a quick reference:
Course Catalog/Schedule
  • Course offerings/subject code: DSCI

Program Description and Code
  • Data Science: DSCI

Undergraduate Minor Description and Code
  • Minor in Data Science: DSCI

CIP Code and Description
  • DSCI Minor: CIP Code/Title: 27.0304 - Computational and Applied Mathematics

1 Classification of Instructional Programs (CIP) 2010 Codes and Descriptions from the National Center for Education Statistics: https://nces.ed.gov/ipeds/cipcode/ (https://nces.ed.gov/ipeds/cipcode)