



Minor



Certificate

DATA SCIENCE Minor and Certificate

OPPORTUNITIES AND OPTIONS FOR ALL RUTGERS-NEW BRUNSWICK UNDERGRADUATE STUDENTS

DATA SCIENCE MINOR TAKEAWAYS

- Improve your data literacy and add to your academic competency.
- Become a logical and data-informed problem solver.
- Interpret and visualize complex data using computational tools.
- Apply statistical tools to real-world challenges.
- Articulate salient features of the data, including the ethical, legal, and social implications.
- Advance your interest in the empirical analysis of economic data.

QUESTIONS? Please contact:
datascience@sas.Rutgers.edu

Data Science Minor

The Data Science Minor is designed to equip students to become proficient in the principles of computation, statistical inference, and data management, and their applications in a specific domain/field.

Its interdisciplinary and visionary curricula allow flexibility and accessibility for any student who wants to enhance their academic competency and employability in data-informed careers.

The minor consists of six courses plus a mini capstone. After completing the three data science foundational courses the minor offers a choice of four tracks to allow students to differentiate and complement their career pathway, thus accommodating broad range of student goals and backgrounds.

Data Science Undergraduate Certificate

In the credit-based Data Science Undergraduate Certificate program students learn hands-on skills as well as gain an understanding of the data science concepts. Students are able to take any data set and perform statistically sound analytics, then present conclusions backed with data.

The certificate can be earned by completing three Data Science foundational courses followed by a domain-specific course in area of interest and corresponding mini capstone.



CURRICULUM REQUIREMENTS

DATA SCIENCE MINOR

Students are required to complete six courses and a mini capstone. Students must maintain a G.P.A. of 2.0 in the courses applied to the minor. No courses with grade D can be counted toward the minor.

Foundation Courses (3 courses):

- Data101: Data Literacy (01:198:142/01:960:142)
- Statistical Inference for Data Science (01:960:291)
- Data Management: choose one of the following:
 - Data management for data science (01:198:210), or
 - Data management and wrangling with R (01:960:295), or
 - Fundamentals of data curation and management (04:547:221)

Domain Course (1 course):

Choose one of the courses from the published list on the website <https://datascience.sas.rutgers.edu>

SAS	CS 439	Econ 322	English 207	Genetics 303	Geography 320/321/330	Physics 345	Pol. Sci. 391	Sociology 360	Statistics 365/463/486
		SC&I	DCIM 220	ITI 321		SEBS	Biotech 485	SOE	ECE 443

Mini capstone

Choose one of the following:

- Data Science Capstone Project (01:198:310) - default
- Data Science and Econometrics (01:220:323)

DATA SCIENCE CERTIFICATE

Students must take 3 foundational courses, 1 domain course, and the 1-credit mini-capstone for the successful completion of the Certificate in Data Science. Students must maintain a G.P.A. of 2.0 in the courses applied to the certificate. No courses with grade D can be counted toward the certificate.

Data Science Minor Track courses (2 courses):

Choose from one of the following tracks.

Track 1: For students with existing programming experience.

- Regression Methods (01:960:463)
- Machine learning: choose one of the following:
 - Machine Learning Principles (01:198:461), or
 - Introduction to Deep Learning (01:198:462)

Track 2: For students with quantitative background but perhaps little programming experience.

- Applied Statistical Learning (01:960:486)
- Choose one of the following:
 - Regression Methods (01:960:463), or
 - Information Visualization (04:547:321), or
 - Data in Context (04:189:220)

Track 3: For students interested in Economics and Data Science.

- Advanced Analytics for Economics (01:220:424)
- Choose one of the following:
 - Information Visualization (04:547:321), or
 - Data in Context (04:189:220)

Track 4: For students interested in human-centered aspects of Data Science.

- Information Visualization (04:547:321)
- Data in Context (04:189:220)