

# RUTGERS

School of Arts and Sciences

# Data Science Major B.A. and B.S.

OPPORTUNITIES AND OPTIONS FOR ALL RUTGERS-NEW BRUNSWICK UNDERGRADUATE STUDENTS

## Bachelor of Arts



The Bachelor of Arts in Data Science at Rutgers provides students with a strong foundation in data literacy, statistical inference, data management, and information and data management principles. The program has two tracks, Statistics and Societal Impact, each with unique requirements. The Statistics track includes calculus, computer science, and advanced statistics courses. The Societal Impact track includes courses in regression methods, computing, IT and informatics, and courses that are built to equip students to take on the role of a data scientist. The program prepares students for a career in data science with a focus on statistical analysis, data management, and information and data management principles.

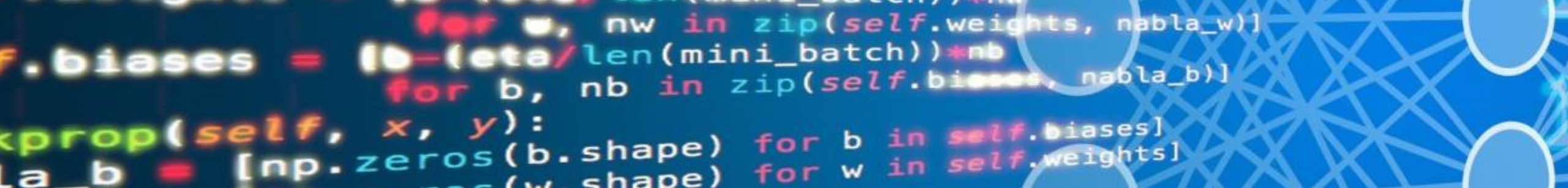
## Bachelor of Science



The Bachelor of Science in Data Science at Rutgers provides students with a foundation in data literacy, statistical inference, and data management. The program includes courses in calculus, linear algebra, and principles of information and data management. The program has two tracks: Computer Science and Economics. The Computer Science track includes courses in calculus and computer science, with a deep emphasis on Machine Learning and Artificial Intelligence. The Economics track includes courses in microeconomics, macroeconomics, as well as other advanced economics courses. Overall, the program provides students with a comprehensive curriculum that prepares them for a career in data science with a focus on economics or computer science.

The Data Science programs are offered by the School of Arts and Sciences (SAS) departments of Computer Science and Statistics. Other schools participate with relevant courses.





### Foundational Courses

- 01:198:142/01:960:142 Data 101: Data Literacy
- 01:960:291 Statistical Inference for Data Science
- Data Management Courses (Choose one):
  - 01:198:210 Data Management for Data Science
  - 01:960:295 Data Management and Wrangling with R
  - 04:547:221 Fundamentals of Data Curation and Management

- 01:640:135/01:640:151 Calculus I
- 01:640:250 Introductory Linear Algebra
- 01:198:336 Principles of Information and Data Management {*course requirement under review*}
- 04:189:220 Data in Context

**Please note:** There is no precedence order except for the normal prerequisites for the courses. Information is subject to change, please consult advisors.

## Bachelor Of Arts

### BA – Statistics (Code NB219TJ):

- 01:640:136/152 Calculus II
- 01:198:111 Intro Comp Sci
- 01:198:112 Data Structures
- 01:960:463 Regression Methods
- 01:960:486 Applied Statistical Learning
- Choose one:
  - 01:960:365 Bayesian Data Analysis
  - 01:960:467 Applied Multivariate Analysis
  - 01:960:490 Intro to Experimental Design

### BA – Societal Impact (Code NB219OJ):

- 01:960:463 Regression Methods
- 01:960:486 Applied Statistical Learning
- 04:189:103 IT and Informatics
- 04:547:201 Information Technology Fundamentals
- 04:547:321 Information Visualization
- Choose one:
  - 01:960:365 Bayesian Data Analysis
  - 01:960:467 Applied Multivariate Analysis
  - 01:960:490 Intro to Experimental Design
  - Approved Domain course

## Bachelor Of Science

### BS – Computer Science (Code NB219SJ):

- 01:640:152 Calculus II
- 01:640:251 Multivariable Calculus
- 01:198:111 Introduction to Computer Science
- 01:198:112 Data Structures
- 01:198:205 Intro to Discrete Structures I
- 01:198:206 Intro to Discrete Structures II
- 01:198:439 Introduction to Data Science
- 01:198:461 Machine Learning Principles or, 01:198:462 Introduction to Deep Learning
- 01:960:463 Regression Methods
- 01:960:486 Applied Statistical Learning
- 04:547:321 Information Visualization

### BS – Economics (Code NB219EJ):

- 01:640:136/152 Calculus II
- 04:547:321 Information Visualization
- 01:220:102 Intro to Microeconomics
- 01:220:103 Intro to Macroeconomics
- 01:220:320 Intermediate Microeconomics Analysis
- 01:220:321 Intermediate Macroeconomic Analysis
- 01:220:322 Econometrics
- 01:220:421 Economic Forecasting and Big Data
- 01:220:422 Advanced Cross-Sectional and Panel Econometrics or, 01:220:423 Advanced Econometrics for Microeconomic Data
- 01:220:424 Advanced Analytics for Economics

**Declare Data Science Major:** Complete Data 101(198:142/960/142), Statistical Inference (960:291), and one of the Data Management courses (198:210/960:295/04:547:221) with a grade of C or better.  
Fill forms according to specific school affiliation in MyMajor.



School of Arts and Sciences



Minor



Certificate