

Data Science at American University

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Undergraduate Minor in Data Science

- Calculus 1 (MATH 211 or 221)
- Basic Statistics (STAT 202 or 203)
- Intermediate Statistics (STAT 302 or 320)
- Statistical Programming in R (STAT 412)
- Data Science (STAT 413)
- Regression (STAT 415) or Statistical Machine Learning (STAT 427)

Consider BS/MS option and take STAT 612, 613, 615 and apply those courses to both degrees - leaving only 21 hours needed for the MS

BS in Data Science (proposed) 48-50 hours

- Required for all tracks (23 credit hours)
 - STAT 202 Basic Statistics
 - CSC 280 Introduction to Computer Science I
 - STAT 302 Intermediate Statistics
 - STAT 412 Statistical Programming in R
 - STAT 413 Data Science
 - STAT 415 Regression
 - STAT 427 Statistical Machine Learning
- Application area track courses (25-27 hours)
 - Business, Computational Science or Statistics
 - Others TBD

BS in Data Sciences for Justice, Law and Criminology

Joint between SPA and CAS - approved, starts Fall, 2019

47 hours total major requirement

- Required - (35 hours)

- CSC 280 Intro to Computer Science I
- CSC 480 Introduction to Data Mining
- STAT 202 Basic Statistics
- STAT 302 Intermediate Statistics
- STAT 412 Statistical Programming in R
- STAT 413 Data Science
- JLC 104 Introduction to Systems of Justice
- JLC 205 Introduction to Criminology
- JLC 280 Introduction to Justice Research
- JLC 281 Introduction to Legal Studies Research

- JLC 437 Measurement of Crime

- Electives (9 hours) from long list of 3xx and 4xx JLC courses

- Capstone 3 hours in JLC 4xx course

BS in Data Sciences for Political Science

Joint between SPA and CAS - approved, starts Fall, 2019

44 hours total major requirement

- Required - (32 hours)

- CSC 280 Intro to Computer Science I
- CSC 480 Introduction to Data Mining
- STAT 202 Basic Statistics
- STAT 302 Intermediate Statistics
- STAT 412 Statistical Programming in R
- STAT 413 Data Science
- GOVT 110 Politics in the United States
- GOVT 210 Political Power and American Public Policy
- GOVT 310 Introduction to Political Research
- GOVT 105 Individual Freedom vs Authority

- or

- GOVT 130 Comparative Politics

- Electives (9 hours) from long list of 3xx and 4xx GOVT courses

- Capstone 3 hours in GOVT 4xx course

Graduate Data Science Programs at AU

Graduate certificate (4 courses, 3.0 GPA in any major)

Masters of Science (3.0 GPA in any major, 30 hours)

- Required for all tracks (21 credit hours)

- STAT 614 or GOVT 653 Statistical Methods

- GOVT 650 Political Analysis

- STAT 612 Statistical Programming in R

- STAT 613 Data Science

- STAT 615 Regression

- STAT 627 Statistical Machine Learning

- DATA 793 Data Science Practicum

- 9 hours in application area track

- **Applied Public Affairs**
- **Business Analytics**
- **Computer Science**
- **Cybersecurity (proposed)**
- **Environmental Science**
- **Finance (proposed)**
- **International Economic Relations (proposed)**
- **Investigative Journalism (proposed)**
- **Microeconomic Analysis**