

## Data Science Cognate Tracks

A Data Science student must complete a cognate, consisting of at least 15 hours, with the same disciplinary prefix (BIO, BUS, ECON, GEOG, POLS, etc.) other than CS, MATH, or STAT, and with at least 6 must be at the 300-level, unless a department recommends otherwise.

This document provides a current list of course tracks that departmental representatives have recommended as especially appropriate for a Data Science major. Students may also combine courses with different prefixes with the approval of their advisor (who must be a member of the Data Science Steering Committee).

### Biology

#### Ecosystems / Population Biology Track:

- Biol. 123 (4) *Living Systems*
- Biol 160 (4) *Ecological and Evolutionary Systems*
- Biol 250 (4) *Research Design and Methodology*  
(For the prerequisite, DS majors only need to take BIO 161 or 141.)
- One of: Biol 345 (4) *Ecosystem Ecology and Management*; Biol 364 (3) *Global Health, Environment, and Sustainability*; Biol 385 (4) *Internship in Biology*, Biol 399 (4) *Undergraduate Research*, PubH 248 (4) *Epidemiology*, or an approved interim.

#### Genomics / Cell Biology Track:

- One of: Chem 115 (4) *Chemistry for the Health Sciences*; Chem 103 (4) *General Chemistry I*; Chem 104 (4) *General Chemistry II*; or Chem 105 (4) *Chemical Principles*
- One of Biol 161 (4) *Cellular and Genetic Systems*; or Biol 141 (4) *Cell Biology & Genetics for the Health Sciences*
- Biol 250 (4) *Research Design and Methodology*
- One of: Biol 321 (4) *Genetics and Development*; Biol 325 (4) *Biotechnology*; Biol 336 (4) *General Microbiology*; Biol 385 (4) *Internship in Biology*, Biol 399 (4) *Undergraduate Research*, Psyc 343 (4) *Behavioral Neuroscience*, or an approved interim.

### Business

- BUS 160 (3) *Business Foundations*
- BUS 203 (3) *Intro to Managerial Accounting*
- BUS 204 (4) *Financial Accounting*
- BUS 370 (3) *Financial Principles*
- BUS 371, 372, or 380 (3) *Financial Instruments and Markets, Advanced Corporate Finance, or Marketing*
- (Students should take ECON 221 to fulfill their *Societal Structures* core requirement, as it is the prerequisite for some of the upper-level BUS courses.)

### Economics

- ECON 221 (3) *Principles of Microeconomics*
- ECON 222 (3) *Principles of Macroeconomics*
- ECON 325 or 326 (4) *Intermediate Microeconomics or Intermediate Macroeconomics*
- ECON 343 (3) *Research Methods*
- one additional ECON 300-level course (3)

## Geography

### GeoSpatial Track:

- GEOG 200 (3) *People, Place and Community*
- GEOG 261 (4) *Intro GIS*
- GEOG 361 (4) *Advanced GIS*
- GEOG 362 (4) *Remote Sensing of Earth*

### GeoPhysical Track: at least 15 hrs chosen from the following

- GEOG 120 (4) *Earth Systems*
- GEOG 252 (4) *Geomorphology*
- GEOG 261 (4) *Intro GIS*
- GEOG 322 or GEOL 312 (4) *Coastal Geomorphology or Environmental Geology*
- GEOG 362 (4) *Remote Sensing of Earth*

### GeoHuman Track:

- GEOG 200 (3) *People, Place and Community*
- GEOG 261 (4) *Intro GIS*
- GEOG 310 (4) *Urban Geography*
- GEOG 361 (4) *Advanced GIS*

## Political Science

- POLS 251 (3) *Foundations of Political Science Research*
- POLS 212 (3) *American Public Policy*
- Three courses from one of the following categories (9):
  - American Politics and Polity:
    - POLS 208 *Urban Politics*
    - POLS 209 *Public and Non-Profit Administration*
    - POLS 218 *American Foreign Policy*
    - POLS 234 *The President and Congress*
    - POLS 237 *Parties and Interest Groups*
    - POLS 318 *American Elections and Mass Media*
  - International Relations/Comparative:
    - POLS 218 *American Foreign Policy*
    - POLS 277 *Asian Politics*
    - POLS 279 *African Politics*
    - POLS 304 *International Peace and Security*
    - POLS 307 *Civil War, Ethnic Conflict, and Terrorism*
    - POLS 309 *International Organization and Law*
    - POLS 319 *International Political Economy*
    - POLS 321 *Religion and Politics in Comparative Perspective*
    - POLS 322 *Global Democratization*

## Public Health

- PUBH 101 (3) *Introduction to Public Health*
- PUBH 248 (4) *Epidemiology*
- ECON 241 (3) *Health Economics and Health Policy*
- PHIL 212 (3) *Ethical Dimensions of Health Care*

- One course from: PUBH 380 (3,4) *Internship in Public Health*; PUBH 395 (3) *Integrative Seminar in Public Health*; BIOL 364 (3) *Global Health, Environment, and Sustainability*; or PSYCH 335 (4) *Health Psychology*.