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*

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*

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.