# DATA ANALYSIS MINOR

## MINOR REQUIREMENTS

### Basic Knowledge Courses
Select one of the following: 1

- **MATH132** Elementary Statistics
- **PHYS/QAC221** Modeling and Data Analysis: From Molecules to Markets
- **PSYC200** Statistics: An Activity-Based Approach
- **QAC201** Applied Data Analysis
- **QAC211** Digging the Digital Era: A Data Science Primer

### Mathematical, Statistical, and Computing Foundation Courses
Select two courses from the following, each from a different group: 2

**Mathematical Foundations**
- **MATH221** Vectors and Matrices
- **MATH223** Linear Algebra
- **MATH228** Discrete Mathematics
- **MATH274** Graph Theory

**Statistical Foundations**
- **ECON300** Quantitative Methods in Economics
- **GOVT367**/**QAC302** Political Science by the Numbers
- **MATH231** An Introduction to Probability
- **MATH232** Mathematical Statistics

**Computing Foundations**
- **BIOL265** Bioinformatics Programming
- **COMP112** Introduction to Programming
- **COMP211** Computer Science I
- **COMP212** Computer Science II

### Applied Electives
Select two credits from the following: 2

- **E&ES280** Introduction to GIS
- **E&ES380**/**QAC344** Advanced GIS and Spatial Analyses
- **ECON282** Economics of Big Data
- **ECON385** Econometrics
- **ECON386** Introduction to Forecasting in Economics and Finance
- **GOVT366** Empirical Methods for Political Science
- **GOVT378** Advanced Topics in Media Analysis
- **PHYS340** Computational Physics
- **PSYC385** Applied Quantitative Methods in Survey Research
- **QAC231** Introduction to (Geo)Spatial Data Analysis and Visualization
- **QAC241** Introduction to Network Analysis
- **QAC251** Data Visualization: An Introduction
- **QAC307** Experimental Design and Causal Inference
- **QAC311** Longitudinal Data Analysis (0.5 credit)
- **QAC312** Hierarchical Linear Models (0.5 credit)
- **QAC313** Latent Variable Analysis (0.5 credit)
- **QAC314** Survival Analysis (0.5 credit)
- **QAC323** Bayesian Data Analysis: A Primer (0.5 credit)
- **QAC380** Introduction to Statistical Consulting
- **QAC385** Applications of Machine Learning in Data Analysis
- **QAC386** Quantitative Textual Analysis: Introduction to Text Mining

Additional courses to be offered by QAC such as Modeling Time Series Data, Exploratory Data Analysis, Log-linear Models etc.

## ADDITIONAL INFORMATION

- There may be prerequisite courses required for some of the courses that count toward the minor, such as calculus. These prerequisites do not count toward the minor, and students attempting to complete the minor are not excused from these prerequisites.
- Mathematics majors cannot count courses in the foundations groups already covered by their major toward the minor. They must instead complete one course from the statistical foundations group and complete three applied elective courses. Alternatively, to completing three applied elective courses, they can take either **MATH232** or **COMP212** and complete two applied elective courses.
- Computer science majors cannot count courses in the foundations groups already covered by their major toward the minor. They must instead complete one course from the statistical foundations group and complete three applied elective courses. Alternatively, they can complete both **MATH231** and **MATH232** and complete two applied elective courses.
- Economics majors and minors cannot count **ECON300** toward the minor and must instead complete one course from each of the other two foundation groups.
- Students cannot count more than one course toward this minor that is also counted toward completion of any other of their majors or minors.
- One course taken elsewhere may substitute as appropriate for any of the above courses and count toward the minor, subject to the QAC Advisory Committee’s approval (where routine approval may be delegated to the QAC Director).
- A more advanced course can substitute for the basic knowledge course, subject to approval. Students with good quantitative skills are strongly encouraged to do this.
- Students cannot receive both the data analysis minor and the Applied Data Science Certificate (catalog.wesleyan.edu/certificates/applied-data-science).