

DATA ANALYSIS MINOR

MINOR REQUIREMENTS

Code	Title	Hours
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	
QAC250	An Introduction to Data Journalism	
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	
COMP115	How to Design Programs	
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	
QAC231	Introduction to (Geo)Spatial Data Analysis and Visualization	
QAC239	Proseminar: Machine Learning Methods for Text, Audio and Video Analysis	
QAC241	Introduction to Network Analysis	
QAC251	Data Visualization: An Introduction	
QAC305	Exploratory Data Analysis and Pattern Discovery	

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)
QAC356	Advanced R: Building Open-Source Tools for Data Science
QAC380	Introduction to Statistical Consulting
QAC385	Applications of Machine Learning in Data Analysis
QAC386	Quantitative Textual Analysis: Introduction to Text Mining

NOTE: at least one of the electives should be a 300 level course

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 recused 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 (<https://catalog.wesleyan.edu/certificates/applied-data-science/>).