

DATA SCIENCE MAJOR—BA

Minimum of 47 semester course credits and general BA requirements (<https://catalog.mills.edu/undergraduate/academic-requirements/ba-requirements>)

Code	Title	Credits
Required		
Foundational Courses		
CS 063	Introduction to Computer Science	4
CS 064	Computer Concepts and Intermediate Programming	4
MATH 047	Calculus I	3
MATH 048	Calculus II	3
MATH 050	Linear Algebra	4
Core Courses		
DATA 60	Data Visualization	3
DATA 150	Introduction to Data Analysis	4
MATH 102	Probability and Statistics	4
MATH 108	Mathematical Modeling	4

Specializations

Select one of the following tracks.

Computational Analytics

Code	Title	Credits
Required:		
CS 124	Data Structures and Algorithms	4
MATH 004	Discrete Mathematics I	4
Select two courses from the following:		8
CS 125	Theory of Algorithms	
CS 133	Cryptography and Network Security	
CS 141	Machine Learning	
CS 170	Software Engineering	

Mathematical Analytics

Code	Title	Credits
Required:		
MATH 049	Multivariable Calculus	4
Select three courses from the following		12
MATH 104	Differential Equations	
MATH 131	Introduction to Abstract Algebra	
MATH 141	Real Analysis I	
MATH 142	Real Analysis II	

Economic and Policy Analytics

Code	Title	Credits
Required:		
ECON 164	Econometrics and Business Forecasting	4
Select three courses from the following		12

ECON 134	Public Sector Economics: The Economics of Government
ECON 149	Strategic Behavior
ECON 182	Modeling and Data Analysis
ECON 165/265	Applied Econometrics
PPOL 100	Methods of Social Research and Policy Analysis

Sociological Analytics

Code	Title	Credits
Required:		
PPOL/SOC 100	Methods of Social Research and Policy Analysis	4
PPOL 114	Social Policy Analysis	4
PPOL 125/225	Gender and Public Policy	3-4
SOC 091	Methods of Social Research and Policy Analysis	4
SOC 134	Social Inequality	3