

Mathematics BS, Emphasis in Data Science

CMP SCI 2250	Programming and Data Structures	3
MATH 1320	Introduction to Probability and Statistics	3
MATH 1800	Analytic Geometry and Calculus I	5
MATH 1900	Analytic Geometry and Calculus II	5
MATH 2000	Analytic Geometry and Calculus III	5
MATH 2020	Introduction to Differential Equations	3
MATH 2450	Elementary Linear Algebra	3
MATH 3250	Foundations of Mathematics	3
MATH 4100	Real Analysis I	3
Specialized Requirements		
MATH 4005	Exploratory Data Analysis with R	3
MATH 4070	Introduction to Nonlinear Optimization	3
MATH 4200	Mathematical Statistics I	3
MATH 4210	Mathematical Statistics II	3
MATH 4250	Introduction to Statistical Methods in Learning and Modeling	3
Elective Requirements		12
Choose two courses from the following list and two additional courses in mathematics, statistics or computer science numbered above 4000:		
MATH 3320	Applied Statistics	
MATH 4080	Introduction to Scientific Computation	
MATH 4090	Introduction to High-dimensional Data Analysis	
MATH 4220	Bayesian Statistical Methods	
MATH 4225	Introduction to Statistical Computing	
MATH 4260	Introduction to Stochastic Processes	
MATH 4450	Linear Algebra	
MATH 4750	Introduction to Mathematics of Artificial Neural Networks	
Total Hours		30

There are no related area requirements.

Computer Science majors who would like to pursue the B.S. in Mathematics (Emphasis in Data Science) are not required to take MATH 2020 and must:

a) complete all courses in the core requirements, except for MATH 4100 and may substitute MATH 3000 for MATH 3250

b) complete all courses in the specialized requirements and one from elective requirements.

Justification for request:

Math 4750 is a newly proposed course in Data Science, and it has been determined to be a suitable Elective requirement for this degree.