

Master of Science degree in Applied Statistics and Data Science Coursework Requirements

Candidates for this degree are required to successfully complete 36 semester credit hours as specified below:

1. All candidates for the Master of Science degree in Applied Statistics and Data Science must complete the following 21 semester credit hours of coursework:

Table 5. Required/Core Courses

Prefix and Number	Required/Core Course Title	SCH
MATH 6330	Linear Algebra	3
MATH 6364	Statistical Methods	3
MATH 6365	Probability and Statistics	3
MATH 6392*	Statistical Learning	3
CSCI 6302	Foundations of Software and Programming Systems for Information Technology	3
CSCI 6305	Foundations of Algorithms and Programming Languages	3
CSCI 6366	Data Mining and Warehousing	3

2. A candidate for the Master of Science degree in Applied Statistics and Data Science must complete 9 semester credit hours of prescribed electives with any three chosen from the following focus areas:

Table 6. Prescribed Statistics Elective Courses

Prefix and Number	Prescribed Elective Course Title Statistics Courses (choose one)	SCH
MATH 6336	Advanced Sampling	3
MATH 6379	Stochastic Processes	3
MATH 6380	Time Series Analysis	3
MATH 6381	Mathematical Statistics	3
MATH 6382	Statistical Computing	3
MATH 6383	Experimental Design and Categorical Data	3
MATH 6384	Biostatistics	3

Table 7. Prescribed Computer Science Elective Courses

Prefix and Number	Prescribed Elective Course Title Computer Science Courses (choose one)	SCH
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CSCI 6315	Applied Database Systems	3
CSCI 6333	Advanced Database Design and Implementation	3
CSCI 6352*	Advanced Machine Learning	3
CSCI 6350	Advance Artificial Intelligence	3
CSCI 6355	Bioinformatics	3

Table 8. Prescribed Mathematics Elective Courses

Prefix and Number	Prescribed Elective Course Title Mathematics Courses (choose one)	SCH
MATH 6352	Analysis I	3
MATH 6359	Applied Analysis	3
MATH 6375	Numerical Analysis	3

3. In addition, each of the candidates for the degree is required to satisfy one of the following capstone options:

Table 9. Required Capstone Options

Prefix and Number	Required Capstone Options	SCH
	Thesis Option	
MATH 7300	Thesis I	3
MATH 7301	Thesis II	3
	Master Project Option	

MATH 6390* or MATH 6391	Internship* or Master Project	3
MATH XXXX or CSCI XXXX	Prescribed Elective	3
	Non-Thesis Option (Comprehensive Exam)	
MATH XXXX or CSCI XXXX	Prescribed Elective	3
MATH XXXX or CSCI XXXX	Prescribed Elective	3