Statistics M.S.

The plan in Statistics leads to a Master of Science (M.S.) degree. This plan emphasizes a curriculum that is designed to educate students in the theory and application of statistics. The plan is suitable for students with an undergraduate background in mathematics, engineering or the sciences.

Students with degrees in engineering, science or other fields will be considered if their preparation includes an adequate number of upper-level credits in mathematics and statistics. In some cases, additional preparatory courses may be required.

Degree Requirements

Statistics Core Requirements (15 hours)

The following five courses or their approved substitutes are required:

- STAT 5431 Advanced Probability Credit Hours: 3
- STAT 5432 Principles of Statistical Inference Credit Hours: 3
- STAT 5532 Linear Models and Regression Analysis
- STAT 5533 Statistical Computing
- STAT 5535 Experimental Designs and Analysis

Applied Statistics Specialization (18-21 hours)

Thesis Option (18 hours)

3 credit hours of 4000 – 6000 level MATH/STAT courses 3 credit hours of 5000 – 6000 level approved courses

| STAT 6939 | Master’s Thesis Research |
| STAT 5538 | Categorical Data Analysis |

Additional Information

Students take STAT 6939 for 6 credit hours.

Extended Course work Option (21 hours)

3 credit hours of 4000 – 6000 level MATH/STAT courses 3 credit hours of 5000 – 6000 level approved courses

| STAT 5538 | Categorical Data Analysis |

Additional Information

3 credit hours of 4000 – 6000 level MATH/STAT courses must be MATH/STAT 4345 if not previously completed.

*Approved electives: STAT 5531, STAT 5537, STAT 5631, STAT 5635, STAT 5636, STAT 5637

In addition to the required 21 hours, students pursuing the extended coursework option must complete a comprehensive written examination of core courses.

Capstone Project (18 hours)

3 credit hours of 4000 – 6000 level MATH/STAT courses 3 credit hours of 5000 – 6000 level approved courses

| STAT 5538 | Categorical Data Analysis |
| STAT 5634 | Data Visualization and Graphical Tests Credit Hours: 3 |
| STAT 6837 | Statistics Research and Consulting I |
| STAT 6838 | Statistics Research and Consulting II |

Additional Information

Students take STAT 6837/STAT 6838 for 6 credit hours during the last 18 hours of course work.
3 credit hours of 4000 - 6000 level MATH/STAT courses must be MATH/STAT 4345 if not previously completed.

Big Data Analytics Specialization (18 hours)

<table>
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<tr>
<th>Capstone Project (18 hours)</th>
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<tr>
<td>3 credit hours of 4000–6000 level approved courses STAT 5537 or STAT 5634/CSCI 5532 or CSCI 5530/CSCI 5833 or CSCI 5832 As part of the 18 hours, students must take one of the following: CSCI 5933, CSCI 5333 or CINF 5432.</td>
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STAT 6838 Statistics Research and Consulting II

Additional Information

3 credit hours of 4000 - 6000 level MATH/STAT courses must be MATH/STAT 4345 if not previously completed.