**BS in DATA SCIENCE Degree Requirements**

**2021-2022**

### Premajor Requirements

*C or better in each course, and a minimum 3.0 average GPA (overall and within pre-major courses) required to apply for full major status.

1. CS 1400, Intro to Comp Prog___________(3)  
   AND  
   CS 1410, Intro to OOP_______________(4)  
   OR  
   CS 1420 Accel OOP_________________ (4)  
2. CS 2420, Algorithms/Data Struct. _______(4)  
3. Math 1310, Engineering Calculus I (QR)____(4)  
4. Math 1320, Engineering Calculus II (QR)___(4)

### Core Data Science

2.5 GPA required to graduate.

1. DS 4140, Data Mining_________________ (3)  
2. DS 4350, Machine Learning____________ (3)  
3. DS 4530, Database Systems_____________ (3)  
4. DS 4630, Visualization for Data Science___ (3)

### Elective - Data Analysis Breadth

Must choose 3 classes. 2.5 GPA required to graduate. Below are pre-approved options.

1. CS 3540, Human Computer Interactions___ (3)  
2. CS 4300, Artificial Intelligence__________ (3)  
3. CS 4640, Image Processing Basics________ (3)  
4. Math 5010, Intro to Probability____________ (3)  
5. Math 5040, Stochastic Processes 1__________ (3)  
6. Math 5080, Statistical Inference 1__________ (3)  
7. Math 5090, Statistical Inference 2__________ (3)  
8. Math 5770, Optimization_________________ (3)  
9. CS 5150, Advanced Algorithms____________ (3)  
10. CS 5340, Natural Language Processing____ (3)  
11. CS 5635, Visualization for Scientific Data__ (3)

### Elective - Data Domain

Must choose 3 classes from this list.

1. _______________________________(3)  
2. _______________________________(3)  
3. _______________________________(3)

### Capstone Requirements

Choose ONE set (to be replaced with DS-specific ones):

1. DS 4800, Senior Capstone Design________ (3)  
2. DS 4850, Senior Capstone Project________ (3)

or

1. DS 4940, Undergraduate Research_________ (3)  
2. DS 4970, Bachelors Thesis_______________ (3)

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*Must reach total of at least 122 credit hours. This degree requires at least 108 hours.  
All DS required courses must be passed with a C or better.*