Data Science (DS) Courses

**DS 5003. Introduction to Data Science.** (3-0) 3 Credit Hours.
An in-depth investigation into the Data Science life cycle. Focus areas on data visualization, data curation, tools available for data analysis, and software packages will be covered.

**DS 5013. Programming for Data Science.** (3-0) 3 Credit Hours.
An introduction to data-driven programming emphasizing problem solving, critical thinking, and algorithmic thinking. Topics will focus on foundational computer programming concepts along with fundamentals of object-oriented programming and mathematics/statistics packages.

**DS 5023. Data Organization and Visualization.** (3-0) 3 Credit Hours.
This course investigates the data organization process from data integration to analysis and visualization through program design and implementation. Topics may also include data collection and sources, file input/output, data preprocessing algorithms, and data visualization using data science software packages and APIs.

**DS 5033. Data Mining and Machine Learning.** (3-0) 3 Credit Hours.
This course investigates fundamental data science concepts in in-depth analysis, data mining, machine learning, and artificial intelligence. Topics may include clustering, classification, evaluation metrics, supervised and unsupervised learning, search algorithms, intelligent agents, and advanced AI applications in select areas.