

MACHINE LEARNING/ ARTIFICIAL INTELLIGENCE MINOR

The **Machine Learning/Artificial Intelligence** minor is designed to provide an opportunity to all business majors. They will gain an understanding of the applied use of data mining, data visualization, and machine learning and artificial intelligence.

The International Data Corporation (<https://www.idc.com/>) predicts that data will grow from 33 zettabytes to 175 zettabytes by 2025. A zettabyte is approximately the size of a trillion gigabytes. This is a 61% compounded annual growth rate. Around half of this data will likely live in the cloud. The numbers are staggering and the implications are huge.

MLBA give analysts the ability to process and find meaning in these extremely large data sets. MLBA are not only prized skills, but will likely become the most demanded skill for job applicants in the coming years.

Further, the SAS Institute asserts that "...it's possible to quickly and automatically produce models that can analyze bigger, more complex data and deliver faster, more accurate results – even on a very large scale." This helps organizations to be increasingly capable in a highly competitive world, while minimizing unknown risks (https://www.sas.com/en_us/insights/analytics/machine-learning.html).

Learning Goals and Outcomes

Goal 1: Students will be able to demonstrate a conceptual and intuitive understanding of the common machine learning algorithms (inc. Supervised and Unsupervised Learning) and when each kind of technique may be appropriate.

Goal 2: Students will be able to define the structure and components of a Python program (using loops, decision statements, functions, and libraries). Additionally, they will be able to work with Python libraries for data processing, and data visualization.

Goal 3: Students will be able to design and implement various machine learning algorithms in a range of business applications.

Goal 4: Students will demonstrate the use of data mining models that can identify hidden patterns and rules.

Goal 5: Students will be able to communicate clearly and effectively in composing and delivering oral presentations to the target audience.

Requirements

Code	Title	Hours
DSS 210	Business Statistics	3
DSS 220	Business Analytics	3
DSS 325	Open Source Program Lang	3
DSS 420	Introduction to Data Mining	3
DSS 451	Machine Learning for Bus I	3
DSS 455	Machine Learning for Bus II	3
Total Hours		18