

**DA 120: INTRODUCTION TO ANALYTICS AND ANALYTICAL PROGRAMMING** (delivered online, est. 60 hours)

**COURSE DESCRIPTION**

This course introduces students to the fundamentals of the analytical process and the role of the analyst, applied descriptive statistics, and exploratory data analysis. The course introduces students to the basics of the Python programming language, and uses the Pandas, Statsmodels, and Scipy libraries to explain basic concepts and applications of analytics. Topics include utilization of Python for data management, data visualization, and exploratory data analysis. Upon completion, students should be able to demonstrate a basic understanding of analytics for decision-making in business and to use Python and its libraries to conduct descriptive analytics.

**COURSE OUTCOMES**

Students will:

- Explain the analytical process and the role of the analyst.
- Learn the basics of the Python programming language.
- Learn how to extract data from SQL databases.
- Utilize Python and the Scipy library to conduct descriptive analytics.
- Utilize applied descriptive statistics to make basic business decisions.
- Utilize exploratory data analysis to make basic business decisions.

**PREREQUISITE(S):** None

**DA 121: DATA VISUALIZATION** (delivered online, est. 60 hours)

**COURSE DESCRIPTION**

This course introduces students to the basics of the Python programming language, using the open-source libraries Numpy, Seaborn, and Matplotlib to explain key concepts in data visualization and reporting. Topics include concepts and methods used in graphical representation of data, exploration and reporting of data, and basic linear regression methods. Upon completion, students should be able to effectively use graphical tools to communicate insights about data.

**COURSE OUTCOMES**

Students will:

- Learn the basics of the Python programming language.
- Utilize concepts and methods in the graphical representation of data.
- Utilize concepts and methods in the exploration and reporting of data.
- Conduct basic linear regression methods.
- Apply data visualization concepts to communicate insights about data.

**PREREQUISITE(S):** DA 120