

Data Analytics Minor Fall 2021

The Data Science Minor at RIC has been renamed to Data Analytics as of Fall 2021 to align its focus on data analytics. The minor complements most majors and is applicable to a wide range of disciplines.

Program Overview

The Data Science and Analytics (DSA) field is one of the fastest growing areas of the IT industry. Businesses, public agencies, and nonprofit organizations need professionals who can analyze data in new and effective ways. This includes many job titles like data engineers, data scientists, statisticians, and data analysts. In general, data scientists use advanced mathematical skills to create sophisticated models to build new data sets. Where, data analysts typically use these models to solve business problems by identifying insights with visualizations.

Program Objectives

At the completion of the courses, students will be prepared for entry-level positions in business or data analytics and be able to:

- Formulate a business problem in a data-driven framework, develop viable solutions, and communicate these solutions to technical and non-technical stakeholders
- Learn how to obtain data and turn it into a form that can be used to investigate the problem at hand
- Understand the general sense of more advanced analytics (like textual analytics) as predictive analytics and machine learning

Program Courses

The minor consists of six courses: three foundation courses (math, statistics, and information systems) plus three analytics-related courses (programming, analytics, visualization).

The *three foundation courses* are:

- MATH 177* QBA
- MATH 248* or MATH 240 Statistics
- CIS 252* Information Systems

*Required course for the majority of business majors.

The *three analytics-related courses* are:

- CIS 301 Computer Programming
- CIS 470 Data Analytics
- CIS 472 Data Visualization

Course Details



[CIS 301](#) introduces students to programming with a focus on object orientation and business problem solving. Currently, the course is taught using *Python* programming language, one of the most commonly used languages. Taking this course will help students understand the foundations of programming (i.e., how do computers “think”) as well as solid practice in Python.



[CIS 470](#) exposes the student to the *full analytics cycle*, from obtaining data to communicating results. The course starts with an overview of the data analytics field including the role of ethics. Students then learn the steps of the process through which businesses make data-driven decisions. This course currently uses SAS Institute's Viya analytics platform. After finishing this course, students can take the certification exam for *SAS Certified Specialist: Visual Business Analytics*.



[CIS 472](#) is a deep dive into the theory and practice of communicating data visually. It starts with the basics of *data visualization* and gives the students significant practice with popular data visualization tools including *Tableau*. The focus is on best practices and efficient communication of numeric data.

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More information:

<https://www.ric.edu/department-directory/department-computer-science-and-information-systems/data-analytics-minor>