

# DATA SCIENCE, CERTIFICATE OF ACHIEVEMENT

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**Banner Code:** 3\_CN\_DTSCI

**Control Number:** 41082

**Financial Aid Eligible**

This certificate provides students with the opportunity to gain a solid understanding of the core concepts and principles of data science, including data acquisition, manipulation, visualization, statistical analysis, and machine learning. The courses focus on practical skills using industry-standard tools and programming languages to explore and visualize data to uncover patterns, trends, and anomalies that drive informed decision-making. The program is designed to prepare students for entry-level jobs, or to help them advance into careers, such as Associate Data Scientist, Junior Data Scientist, Modeling and Simulation Specialist, Modeling and Simulation Analyst, Big Data Analyst, and Senior Data Analyst.

## Program Level Student Learning Outcomes

Upon completion of this program, students will be able to:

1. Recommend solutions to operational problems by applying data science methods, techniques, and applications.
2. Explain data extraction and cleaning techniques applied to a variety of data sources and data types to ensure quality.
3. Apply appropriate predictive analytics techniques to common operational scenarios.
4. Communicate complex datasets and findings by applying appropriate data visualization techniques.

Review Graduation Requirements (<https://catalog.cccd.edu/coastline/graduation-requirements/certificates/#achievementtext>).

Course	Title	Units
<b>Required Core</b>		
Select one of the following:		4-5
MATH C140	Business Calculus	
MATH C150	Finite Mathematics With Applications	
MATH C160	Introduction to Statistics	
MATH C180	Calculus 1	
Complete all of the following:		
ICS C123	Fundamental Data Structures	3
CIS C157	Introduction to Python Programming	3
CIS C240	SQL Database Development	3
CIS C250	Introduction to Data Analytics	3
CIS C270	Predictive Analytics	3
CIS C280	Data Visualization	3
CIS C290	Data Science and Machine Learning	3
<b>Total Units</b>		<b>25-26</b>