

# DATA SCIENCE, CERTIFICATE OF ACHIEVEMENT

Course	Title	Units
ICS C290	Data Science and Machine Learning	3
<b>Total Units</b>		<b>31-32</b>

**Banner Code:** 3\_CT\_DTSC

**Control Number:** 41082

**Financial Aid Eligible**

The Certificate of Achievement in Data Science provides students with foundational skills in data science, statistical methods, programming, and data visualization. Designed for students aiming to enter the workforce or transfer to a four-year degree program, this curriculum covers essential data science tools and techniques and applies them across various industries. By completing this program, students will acquire practical, hands-on experience with real-world data, empowering them to make data-driven decisions and solve complex problems. This program prepares students for entry-level roles or supports career growth in positions 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	
STAT 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
ICS C165	Foundations of Data Science and Artificial Intelligence	3
CIS C240	SQL Database Development	3
CIS C250	Introduction to Data Analytics	3
CIS C270	Predictive Analytics	3
CIS C280	Data Visualization	3
ICS C265	Artificial Intelligence	3