DATA SCIENCE

Associate in Science Degree

The Data Science, Associate of Science degree provides students with the mathematical foundation, technical knowledge, and expertise to understand how data are collected, analyzed, and used. Through the study of data science, the student develops the ability to think logically and to gain the problem-solving and computational skills necessary for success in upper-division data science courses. A major in Data Science transfers to a four-year university where students have the opportunity to complete a Bachelor's Degree in Data Science, Statistics, or Mathematics. Career Options: Computer Programmer, Data Analyst, Data Scientist, Mathematician, Operations Researcher, Statistician, and Teacher.

Program Learning Outcomes

Upon successful completion of this program a student will be able to:
- Apply appropriate technology and computer programming techniques to the analysis of data.
- Demonstrate computational, estimation, and problem-solving skills.
- Construct mathematical models, draw conclusions from these models, and communicate their conclusions.
- Formulate and test mathematical conjectures.
- Adapt general data science techniques to course-specific problems.
- Demonstrate the ability to analyze problems involving data, using techniques appropriate to the course content and level of study.

Major Core Requirements (22 units)

Course Number	Course Title	Units
Select one: MATH003A MATH003AH	Calculus and Analytical Geometry Honors Calculus and Analytical Geometry	5 units 5 units
Select one: MATH003B MATH003BH	Calculus and Analytical Geometry Honors Calculus and Analytical Geometry	5 units 5 units
MATH004C	Linear Algebra	4 units
Select one: MATH010 MATH010H	Elementary Statistics Honors Elementary Statistics	4 units 4 units
MATH080	Foundations of Data Science	4 units

Major Electives. At least one course must be in Computer Science. (8-9 units)

Course Number	Course Title	Units
CIST004A	Computer Programming I (C++ Programming)	4 units
CIST004A1	Computer Programming I (Java)	4 units
CIST004B	Data Structures using Advanced C++	4 units
CIST004B1	Data Structures using Advanced Java	4 units
CIST005A	Introduction to Python	4 units
CIST005B	Advanced Python	4 units
CIST037	C Programming	4 units
MATH004A	Intermediate Calculus	5 units
MATH019	Discrete Mathematics	4 units

Total Major Units: 30-31 units

To be awarded an Associate Degree, a student must:

1. Achieve a grade of "C" or better in the major requirements.
2. Completion of WVC, CSU-Breadth, or IGETC General Education patterns. Students whose goal is to obtain a bachelor's degree should complete the CSU-Breadth or IGETC General Education pattern.
3. Complete additional degree applicable units to meet the minimum 60-unit Associate Degree requirements.