

Computer Information Science

Degrees:

- A.S. – Computer Science
- A.S. – Information Processing
- A.S. – Information Systems Security
- A.S. – Management Information Science
- A.S. – Network Administration
- A.S. – Network Design
- A.S. – Web Developer

Certificates of Achievement:

- Advanced CISCO Networking
- Business Information Worker
- Computer Science
- Data Science
- Front-End Web Developer
- Information Processing Specialist
- Information Processing Technician
- Information Systems Security
- Management Information Science
- Network Administration
- Network Design
- PC Support
- Programming
- Web Developer
- Web Production Specialist

CISA, CISC, CISN, CISP, CISS, CISW

Division of Business and Computer Information Science

Deborah Saks, Dean
 Business Building, room 213
 916-558-2581

New Program

Data Science

Certificate of Achievement

Program Information

This certificate is designed for students who aspire to master the essential knowledge and skills required for big data storage, discovering, analyzing, visualizing, and application. Students will learn to derive value from vast amounts of data and apply big data analytics techniques to make effective data-driven decisions.

Career Opportunities

Successful completion of the program will provide students job opportunities in data science.

Data science-related job titles such as data scientist, data analyst, big data analyst, zbusiness analyst, and SAS programmer are all possible job opportunities.

The top five industries hiring big data-related expertise include Professional, Scientific and Technical Services, Information Technologies, Manufacturing, Finance and Insurance and Retail Trade.

Upon completion of this program, the student will be able to:

- explain how big data is useful in business or career.
- demonstrate understanding of the five Vs of big data (volume, velocity, variety, veracity, and value).
- evaluate the core concepts behind big data problems, applications, and systems.
- analyze big data using statistical methods and techniques.
- apply big data analytics techniques for effective data-driven decision-making.

Required Program

	Units
CISA 324 Database Management using SQL (2) 2 - 3 or CISP 350 Database Programming (3)	
CISP 301 Algorithm Design and Implementation	4
CISP 357 Introduction to Big Data	4
CISP 358 Data Analysis	4
CISP 359 Big Data Analytics	4
Total Required Units	18 - 19

Certificate of Achievement

A Certificate of Achievement may be obtained by completion of the required program with grades of “C” or better or equivalent.

New Courses

CISP 357 Introduction to Big Data 4 Units

Prerequisite: CISP 301 with a grade of “C” or better
Advisory: BUS 310 with a grade of “C” or better
Hours: 54 hours LEC; 54 hours LAB

This is an introductory course covering important terminology, concepts, and computer languages commonly used in big data analytics and data science. Specific topics include converting raw data to data sets, importing and exporting data, and data set reconstruction.

CISP 358 Data Analysis 4 Units

Prerequisite: CISP 357 with a grade of “C” or better
Hours: 54 hours LEC; 54 hours LAB

This course covers statistical modeling, analysis of variance, regression, and categorical data analysis. Students will explore and summarize data, apply multiple comparison techniques in ANOVA, use chi-square statistics to detect associations among categorical variables, and fit multiple logistic regression models. Emphasis is on fitting models, verifying the model assumptions, and using alternative analysis strategies when necessary.

CISP 359 Big Data Analytics 4 Units

Prerequisite: CISP 357 with a grade of “C” or better
Hours: 54 hours LEC; 54 hours LAB

This course covers techniques for predicting outcomes with supervised machine learning, unearthing patterns in customer behavior, and analyzing structured, unstructured, and big data.