Computer Science Certificate

This program provides a foundation in algorithm development, programming techniques, data structures, and structured problem-solving. This program would be appropriate for students planning to transfer to the CSU or the UC to major in computer science or computer engineering or learn to be a programmer to enhance their career.

Total Units: 22

First Year

Semester 1
3 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
CISP 300 Ⓩ Algorithm Design/Problem Solving	3	Intermediate Algebra	F, S

Ⓩ At least one section of this course is offered with free textbooks and is labeled as zero textbook costs (ZTC). If it is a GE area class or elective, there may be several ZTC offerings to fulfill the GE requirement. Use the Free Textbook filter to find these courses. Learn more on the ZTC page of the college website.

Semester 2
4 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
CISP 360 Introduction to Structured Programming	4	CISP 300 or MATH 400	F(P), S(P)

Year 2

Semester 3
8 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
CISP 400[1] Object Oriented Programming with C++ or	4	CISP 360	F(O), S(O)
CISP 401[1] Object Oriented Programming with Java	4	CISP 360	F(O), S(O)
CISP 310 Ⓩ Assembly Language Programming for Microcomputers	4	CISP 360	F(O), S(P)

Ⓩ At least one section of this course is offered with free textbooks and is labeled as zero textbook costs (ZTC). If it is a GE area class or elective, there may be several ZTC offerings to fulfill the GE requirement. Use the Free Textbook filter to find these courses. Learn more on the ZTC page of the college website.

Career Options/Outlook:

Computer Programmers create, modify, and test the code, forms, and scripts that allow computer applications to run. Work from specifications drawn up by software developers or other individuals. May assist software developers by analyzing user needs and designing software solutions. May develop and write computer programs to store, locate, and retrieve specific documents, data, and information. Typical tasks may include writing, analyzing, reviewing, and rewriting programs, using workflow chart and diagram, and applying knowledge of computer capabilities, subject matter and symbolic logic. **Career opportunities require more than an associate degree.**

A sample of reported job titles:

Analyst Programmer, Application Programmer Analyst, Computer Programmer, Computer Programmer Analyst, Internet Programmer, Java Developer, Programmer, Programmer Analyst, Web Applications Programmer, Web Programmer

Projected job openings in California (2020-2030)

1,510

Projected growth in California:

-3% declinr

[1] Please speak with a CISP Professor about which of these 2 courses is best for your educational goal.

Semester 4 | 7 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
CISP 430 Data Structures	4	CISP 400 or 401	F(P), S(P)
CISP 440 Discrete Structures for Computer Science	3	Co-req: CISP 430	F(odd year)

^You must have passed the prerequisite course(s) with a "C" or better; Corequisite must be taken during the same semester; Advisory means it is recommended but not required to enroll in the course.

*(O) = online available (P) = partially online

Median Salary in California with advaced degree (2021):

$105,080/yr

Source:

https://www.onetonline.org/link/summary/15-1131.00

Transfer notes:

Please meet with a counselor for specific transfer course evaluation or transferring to a specific 4-year institution.

Honors option:

The CRC Honors Program is designed specifically for academically accomplished students and for students with the potential for high achievement. Students who complete 15 units or more in honors-designated courses will earn special recognition as an Honors Scholar, a distinction that may entitle the student to guaranteed transfer and scholarship opportunities at select transfer colleges and universities.

About this map:

This program map represents one possible pathway to complete the program. Please see a counselor to create an education plan that is customized to meet your needs. This map is not a guarantee of course availability or financial aid applicability.

Zero Textbook Costs (ZTC):

The Zero Textbook Costs designation and logo are added to any course that provides free access to all required instructional materials. These are typically shared with students through Canvas. Courses that are designated as ZTC may still require students to purchase supplemental materials such as lab coats, a calculator,

art supplies, etc. See full definitions and searching tips on the Zero Textbook Costs page of the college website.

Counselor Contact: Chris Torres or Ea Edwards | Faculty Contact: Wendell Fishman