



# CIS - Database Design Certificate

This certificate prepares the students to understand the entire database design, programming methodology and life cycle. This certificate is designed for students who require programming skills in Relational Database Management Systems (RDBMS) and Structured Query Language (SQL) techniques using ORACLE or Microsoft Access.

**Total Units: 12.5-19**

## First Year

### Semester 1

**4 Units**

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
<b>CISA 320</b> Introduction to Database Management	1		
<b>CISP 300</b> <sup>1</sup> <b>Z</b> Algorithm Design/Problem Solving	3	Intermediate Algebra	F, S, Su

**Z** 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](#).

<sup>1</sup> CISP 300 is a suggested elective; it is a pre-req for some courses

### Semester 2

**1.5-5 Units**

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
<b>CISA 321</b> Intermediate Database Management	1	CISA 320	F(O), S(O)
<b>CISP 360</b> <sup>1</sup> Introduction to Structured Programming or	4	CISP 300 or MATH 400	F(P), S(P)
<b>CISP 370</b> Beginning Visual Basic or	4	Advisory: CISC 310 or CISP 300	Check Class Schedule for offering
<b>CISP 400</b> Object Oriented Programming with C++ or	4	CISP 360	Check Class Schedule for offering
<b>CISC 498</b> <b>Z</b> Work Experience in Computer Information Science - Core	0.5-4		F(O), S(O). Su(O)

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## 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. **Career opportunities require more than two years of college study.**

### 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 for Public Relations Specialist (2020-2030):

1,510

### Projected growth in California (2020-2030):

-3% decline

<sup>1</sup> Suggestion-CISP 360 is a pre-req for some courses; Students need a minimum of 4 units from this list of courses.

## Year 2

### Semester 3-minimum of 4 units

1-4 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
<b>CISC 305</b> <sup>1</sup> <b>Z</b> Introduction to the Internet <b>or</b>	1	CISC 302 or 310	Check Class Schedule for offering
<b>CISC 306</b> <sup>1</sup> <b>Z</b> Introduction to Web Page Creation <b>or</b>	1	CISC 305 or intermediate level of Internet proficiency	Check Class Schedule for offering
<b>CISW 300</b> <sup>1</sup> <b>Z</b> Web Publishing <b>or</b>	3	CISC 305	Check Class Schedule for offering
<b>CISW 400</b> <sup>1</sup> <b>Z</b> Client-side Web Scripting <b>or</b>	4	CISW 300; Advisory CISP 300	Check Class Schedule for offering
<b>CISW 410</b> <sup>1</sup> Database-Driven Web Applications	4	CISW 300; Advisory: CISP 300	Check Class Schedule for offering

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<sup>1</sup> A minimum of 4 units is required from this list of courses.

### Semester 4

3 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
<b>CISP 350</b> Database Programming	3	CISA 320 and 3 units in any programming Language	F(O)

### Semester 5

3 Units

COURSE	UNITS	PRE-REQS^	SEMESTERS OFFERED*
<b>CISP 356</b> Relational Database Design and Information Retrieval	3	CISP 350	F(P)

^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):

Median wage with advanced degree:  
\$105,080/yr

### Source:

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

### 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.

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