

## Computer Programming 26.5 unit certificate • 60 unit degree

The Computer Programming certificate focuses on writing and implementation of computer programs, and procedures of software design and computer programming.

### Required Courses (to earn certificate)

**CIS-1A Intro to Computer Information Systems (3 units)\***

Introduction to computer concepts, theory and application.

**CIS/CSC-2 Fundamentals of Systems Analysis (3 units)\***

Structured analysis of user requirements related to information systems, for eventual design/development of the system.

**CIS/CSC-5 Programming Concepts & Methodology I: C++ (4 units)\***

Advisory: CIS-1A

Fundamentals of problem definition, algorithm development and structured programming, logic for business, science and mathematical applications.

**CIS-21 Intro to Operating Systems (3 units)\***

Prerequisite: CIS-1A

Intro to operating system concepts, structure, performance, function and management.

**CIS-72A Intro to Web Page Creation (1.5 units)\***

Advisory: Competency in the use of a computer, familiarity with the internet; CIS/CAT-95A

Intro to web page creation using Hypertext Markup Language (HTML).

Plus, an additional 12 units of electives, 6 units in each group.

**Group One: Choose two courses (3 units each):**

CIS/CSC-12\* PHP Dynamic Web Site Programming

CIS/CSC-14A\* Web Programming: JavaScript

CIS-14B Web Programming: Active Server Pages

CIS/CSC-17A\* Programming Concepts and Methodology II: C++

CIS/CSC-18A\* Java Programming: Objects

**Group Two: Choose two courses (3 units each):**

CIS/CSC-11\* Computer Architecture and Organization: Assembly

CIS-17B\* C++ Programming: Advanced Objects

CIS-17C\* C++ Programming: Data Structures

CIS-18B\* Java Programming: Advanced Objects

CIS-18C\* Java Programming: Data Structures

Some of these courses may have prerequisites or advisories. Refer to College Catalog for more information.

\*This class transfers toward one or more CSUSB or CalPoly majors. Visit [www.assist.org](http://www.assist.org) or the Counseling office for details.

## Computer Programming

Tuition \$46/unit • Duration of Study: 16 months

An Associate of Science Degree in Computer Programming will be awarded upon completion of the required courses (26.5 units) plus the General Education requirements. Please refer to the Norco College Catalog or visit the Counseling Center.

### Job & Wage Information

- Software Developer  
Wage Range\*: \$35.34-62.01  
29% increase in employment expected in CA 2019-2029; 13,530 openings annually  
More info:  
<http://bit.ly/SoftwareDeveloperNC>
- Software Test Engineer  
Wage Range\*: \$35.34-62.01  
16% increase in employment expected in CA 2019-2029; 6,690 openings annually

\*2020, Riverside/Ontario/San Bernardino Metro Area

### What type of interests might be a good fit for this career choice?



## Investigative

People who like to observe, learn, investigate, analyze, evaluate, or solve problems primarily of a scientific or mathematical nature.

For more information on careers that fit this category of interests, visit the Career Center in the Center for Student Success.

### What's Your School?



SCHOOL OF  
**Science, Technology,  
Engineering & Mathematics**

Visit [www.norcollege.edu/STEM](http://www.norcollege.edu/STEM)  
for more information about this program.