

# C ++ PROGRAMMING, CERTIFICATE OF SPECIALIZATION

CS A131: Python Programming 1 (4 units)  
CS A140: Introduction to C#.NET Programming

**Banner Code:** 1\_CE\_CSCP  
**Not Financial Aid Eligible**

Completion of this certificate, issued through the Business and Computing Division, will enable students to apply for entry-level positions in C++ programming. A grade of "C" or better is required in all courses. All courses must be completed at Orange Coast College.

## Program Outcome

Program completers will be able to write programs in C++ using classes, flow-of-control and fundamental data structure.

Review Graduation Requirements (<https://catalog.cccd.edu/orange-coast/graduation-requirements/certificates/#specializationtext>).

| Course   | Title                      | Units     |
|--|----------------------------|-----------|
| <b>Required Courses</b>                                |                            |           |
| All courses must be completed at Orange Coast College. |                            |           |
| CS A150  | C++ Programming Language 1 | 4         |
| CS A250  | C++ Programming Language 2 | 4         |
| CS A200  | Data Structures            | 4         |
| <b>Total Units</b>                                     |                            | <b>12</b> |

## Program Sequence

These sequences at Orange Coast College are curriculum maps for students to finish all requirements for the certificate. There may be advisories, prerequisites, or time requirements that students need to consider before following these maps. **Students are advised to meet with an Orange Coast College Counselor for alternate sequencing.**

| Course                                       | Title                      | Units     |
|--|----------------------------|-----------|
| <b>Year 1</b>                                |                            |           |
| <b>Semester 1</b>                            |                            |           |
| C++ Prerequisites- CHOOSE ONE <sup>1</sup> . |                            | 4         |
|  | <b>Units</b>               | <b>4</b>  |
| <b>Semester 2</b>                            |                            |           |
| CS A150                                      | C++ Programming Language 1 | 4         |
|  | <b>Units</b>               | <b>4</b>  |
| <b>Summer</b>                                |                            |           |
| CS A250                                      | C++ Programming Language 2 | 4         |
|  | <b>Units</b>               | <b>4</b>  |
| <b>Year 2</b>                                |                            |           |
| <b>Semester 2</b>                            |                            |           |
| CS A200                                      | Data Structures            | 4         |
|  | <b>Units</b>               | <b>4</b>  |
|  | <b>Total Units</b>         | <b>16</b> |

<sup>1</sup> C++ Prerequisite Choices- Choose One:  
CS A170: Java Programming 1 (4 units)