COMPUTER PROGRAMMING AND ANALYSIS

Associate in Science Degree (CIP# 1511020101)

This program is designed for students who wish to develop skills in computer software development and analysis. The core courses provide knowledge and hands-on training in the foundations of computer technology, computer programming, programming analysis and design, and Web applications development. This program is designed for students who seek immediate employment, and it provides the option for transfer to a Bachelor’s degree.

Students are strongly encouraged to consult a career program advisor in the department office for assistance in determining the best education plan for their career goals.

Although scheduling may not always provide for the following progression of courses, students should use the foundation, intermediate and advanced course sequence as a guide in program planning.

All degree-seeking students must satisfy entry testing requirements and satisfactorily complete all mandatory courses in reading, student success, mathematics, English, and English for Academic Purposes in which the student is placed.

Alternative Ways to Earn Credit toward this Degree

Graduates of specific programs at Orange Technical College and Osceola Technical College, as well as other institutions may be eligible to receive college credit for courses in this program. You may also be eligible to receive credit toward this degree if you have earned one of the approved Gold Standard industry certifications or Career Pathways credit. To learn more about Valencia’s award of credit options, visit valenciacollege.edu/asdegrees/credit_octc.cfm (http://valenciacollege.edu/asdegrees/transferagreements.cfm). Eligible students should contact the Career Program Advisor in their academic department for more information about the requirements for the award of credit.

College Credit Technical Certificates

The Computer Programming A.S. degree also offers the following college credit certificates. These certificates can put you on the fast-track to reaching your career goals. They are designed to equip you with a specialized skill set for entry-level employment or to upgrade your skills for job advancement. Most can be completed in one year or less, and all of the courses in the certificates are embedded in the A.S. degree. You can earn the certificates as you progress through your A.S. Degree or as a separate, stand-alone credential. Click on the Certificate tab at the top of the page for more information about the certificates that are offered.

Computer Programming Specialist (18 credits)

- Computer Programming Specialization (CIP # 0511020103)
- Web Development Specialization (CIP # 0511020103)

Computer Programming (33 credits)

- Computer Programming Specialization (CIP # 0511020200)
- Web Development Specialization (CIP # 0511020200)

Start Right

Degree-seeking students enrolling at Valencia for the first time will have a limited range of courses from which to choose for their first 18 college-level credits. Within the first 18 college credit hours, you will be required to take ENC1101 (3 credits), and if applicable, SLS 1122 (3 credits) and a mathematics course appropriate to your selected meta-major (3 credits). The remaining courses will be chosen from the General Education Core Courses in humanities (3 credits), science (3 credits), or social science (3 credits), and/or the introductory courses within the A.S. degree programs. For specific courses see the Foundation Courses on the “Program Requirements” tab. For course sequencing recommendations, see your Career Program Advisor or create an education plan by logging into Atlas, clicking on the LifeMap tab and clicking My Education Plan.

Potential Careers

- Computer Programmer
- Senior Programmer
- Programmer Analyst
- Systems Programmer
- Programmer Specialist
- Web Programmer
- Web Developer
- Web Master

Salary & Earnings Information

For salary and wage information, visit: www.floridawages.com (http://www.floridawages.com).

Contacts

Future Students

To learn more information about this program, contact Enrollment Services at enrollment@valenciacollege.edu or call 407-582-1507 or visit valenciacollege.edu/computer-programming-and-analysis/ (https://net1.valenciacollege.edu/future-students/degree-options/associates/computer-programming-and-analysis).

Current Students

Contact the campus Career Program Advisor below for more information:

East Campus
Dave Brunick, Program Chair: 407-582-2360
dbrunick@valenciacollege.edu
Launa Sickler, Program Advisor: 407-582-2504
lsickler@valenciacollege.edu

West Campus
Joan Alexander, Program Chair: 407-582-1542
jalexander@valenciacollege.edu
Jon Sowell, Career Program Advisor, West Campus: 407-582-1973
jsowell@valenciacollege.edu

Osceola Campus
Denise Ross, Program Chair: 407-582-4818
deross@valenciacollege.edu
Roxana Boulos, Career Program Advisor: 407-582-4231
rboulos1@valenciacollege.edu (mgonzalez10@valenciacollege.edu)
Internship and Workforce Services

If you need assistance with job resources or in locating an internship, please visit: valenciacollege.edu/internship (http://valenciacollege.edu/internship).

Program Outcomes

- Analyze technical problems as related to customer requirements.
- Design a logical plan for the development of a software solution.
- Implement software solutions including documentation.
- Evaluate software problems, plans, and solutions for correctness and appropriateness.
- Communicate effectively with technical and non-technical audiences.

Foundation Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEB 1011</td>
<td>Introduction To Business</td>
<td>3</td>
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<tr>
<td>COP 1000C</td>
<td>INTRODUCTION TO PROGRAMMING CONCEPTS *1</td>
<td>3</td>
</tr>
<tr>
<td>CTS 1131C</td>
<td>COMPUTER MAINTENANCE ESSENTIALS</td>
<td>3</td>
</tr>
<tr>
<td>CGS 2100C</td>
<td>COMPUTER FUNDAMENTALS AND APPLICATIONS</td>
<td>3</td>
</tr>
<tr>
<td>COP 2822C</td>
<td>WEB SITE DEVELOPMENT +</td>
<td>3</td>
</tr>
<tr>
<td>ENC 1101</td>
<td>FRESHMAN COMPOSITION I *~</td>
<td>3</td>
</tr>
<tr>
<td>MAC 1105</td>
<td>College Algebra +~</td>
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<td>SLS 1122</td>
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Intermediate Courses

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<th>Title</th>
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<tbody>
<tr>
<td>CTS 1142C</td>
<td>INFORMATION TECHNOLOGY PROJECT MANAGEMENT *P1</td>
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<tr>
<td>CGS 2091C</td>
<td>SOCIAL, LEGAL AND ETHICAL ISSUES IN INFORMATION TECHNOLOGY</td>
<td>3</td>
</tr>
<tr>
<td>CGS 2545C</td>
<td>DATABASE MANAGEMENT SYSTEMS *</td>
<td>3</td>
</tr>
<tr>
<td>Humanities</td>
<td>See Gen. Ed. Core or Institutional Requirement ~</td>
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</tr>
<tr>
<td>Social Science</td>
<td>See Gen. Ed. Core Requirement ~</td>
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</table>

Select one of the following:

- COP 2220C | C PROGRAMMING * *
- COP 2800C | JAVA PROGRAMMING * *
- COP 2360C | C# PROGRAMMING * *

Advanced Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COP 2830C</td>
<td>SCRIPTING LANGUAGES *</td>
<td>3</td>
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<tr>
<td>CIS 2910C</td>
<td>IT CAPSTONE *9</td>
<td>3</td>
</tr>
<tr>
<td>CIS 2942</td>
<td>INTERNSHIP IN COMPUTER PROGRAMMING *</td>
<td>1</td>
</tr>
<tr>
<td>or CGS 2650</td>
<td>Social Networking Job Search</td>
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</table>

Computer Programming and Analysis Elective 8

Select one of the following:

- COP 2224C | C++ Programming * *
- COP 2362C | ADVANCED C# PROGRAMMING * *
- COP 2805C | ADVANCED JAVA PROGRAMMING * *

Total Credit Hours 60

Computer Programming with Specializations in:

- Computer Programming
- Web Development

Technical Certificate

This certificate is designed for students who wish to develop skills in computer programming or Web development.

Foundation Courses

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<td>COMPUTER MAINTENANCE ESSENTIALS</td>
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<tr>
<td>COP 2822C</td>
<td>WEB SITE DEVELOPMENT +</td>
<td>3</td>
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<tr>
<td>CGS 2545C</td>
<td>DATABASE MANAGEMENT SYSTEMS *</td>
<td>3</td>
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</tbody>
</table>

Computer Programming and Analysis Electives 9

Specialization (See below) 12

Total Credit Hours 33

Computer Programming Specialization

Program Outcomes

- Analyze technical problems as related to customer requirements.
- Design a logical plan for the development of a software solution.

Notes:

Upon earning the Computer Programming & Analysis A.S. degree, you can continue at Valencia to complete the B.A.S. degree in Business & Organizational Leadership (http://catalog.valenciacollege.edu/degrees/bachelorofscience/bas). Additional education at the bachelor's level can enhance your skills and create more career opportunities. Students who wish to continue their education should consult with their Career Program Advisor to discuss transfer options and requirements, and determine the best education plan for their career goals.

Students wishing to transfer credits from this program to another institution must accept responsibility for securing approval from the transfer institution for acceptance of this degree.

Specialized courses may not be offered every session or on every campus.

Computer Programming with Specializations in:

- Computer Programming
- Web Development

Technical Certificate

This certificate is designed for students who wish to develop skills in computer programming or Web development.

Foundation Courses

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Computer Programming and Analysis Electives 9

Specialization (See below) 12

Total Credit Hours 33

Computer Programming Specialization

Program Outcomes

- Analyze technical problems as related to customer requirements.
- Design a logical plan for the development of a software solution.
• Implement software solutions including documentation.
• Evaluate software problems, plans, and solutions for correctness and appropriateness.

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<tr>
<td>COP 2220C</td>
<td>C PROGRAMMING</td>
<td>+*</td>
</tr>
<tr>
<td>COP 2800C</td>
<td>JAVA PROGRAMMING</td>
<td>+*</td>
</tr>
<tr>
<td>COP 2360C</td>
<td>C# PROGRAMMING</td>
<td>+*</td>
</tr>
<tr>
<td>COP 2830C</td>
<td>SCRIPTING LANGUAGES</td>
<td></td>
</tr>
</tbody>
</table>

Total Credit Hours: 3

Computer Programming and Analysis Electives 6

Total Credit Hours: 12

Web Development Specialization

Program Outcomes
• Analyze technical problems as related to customer requirements.
• Design a logical plan for the development of a software solution.
• Implement software solutions including documentation.
• Evaluate software problems, plans, and solutions for correctness and appropriateness.

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<tr>
<td>COP 2830C</td>
<td>SCRIPTING LANGUAGES</td>
<td>*</td>
</tr>
<tr>
<td>CGS 2786C</td>
<td>Web Development Tools</td>
<td></td>
</tr>
<tr>
<td>COP 1812C</td>
<td>XML and Web Services</td>
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</tr>
</tbody>
</table>

Computer Programming and Analysis Electives 3

Total Credit Hours: 12

Notes:
+ This course must be completed with a grade of C or better.
* This course has a prerequisite; check description in Valencia catalog.
1 Students with prior programming experience who pass a waiver examination will be allowed to substitute a higher-level course for this course.

This certificate program is eligible for Financial Aid.

Computer Programming Specialist with Specializations in
• Computer Programming
• Web Development

Technical Certificate
This certificate is designed for students who wish to gain a foundation in software development.

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Computer Programming and Analysis Electives 6

Total Credit Hours: 6

Computer Programming Specialization

Program Outcomes
• Analyze technical problems as related to customer requirements.
• Design a logical plan for the development of a software solution.
• Implement software solutions including documentation.
• Evaluate software problems, plans, and solutions for correctness and appropriateness.

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<tr>
<td>COP 2360C</td>
<td>C# PROGRAMMING</td>
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Total Credit Hours: 3

Web Development Specialization

Program Outcomes
• Analyze technical problems as related to customer requirements.
• Design a logical plan for the development of a software solution.
• Implement software solutions including documentation.
• Evaluate software problems, plans, and solutions for correctness and appropriateness.

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<td>COP 2822C</td>
<td>WEB SITE DEVELOPMENT</td>
<td>+</td>
</tr>
<tr>
<td>COP 2830C</td>
<td>SCRIPTING LANGUAGES</td>
<td>*</td>
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Total Credit Hours: 6

Notes:
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Computer Programming and Analysis Electives 6

Total Credit Hours: 6

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