CONSTRUCTION AND CIVIL ENGINEERING TECHNOLOGY

Construction and Civil Engineering Technology with Specializations in:
- Construction Management
- Civil/Surveying Engineering

Associate in Science Degree (CIP# 1615100102)
The Construction and Civil Engineering Technology A.S. Degree program provides both the theoretical and classroom experience which closely parallels on-the-job activities. It is designed to train competent technicians capable of working with architects, engineers, contractors, building officials and others. It will accommodate architectural drafting, construction estimators, schedulers, and supervisors, as well as persons just entering the field of construction.

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.

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.

College Credit Technical Certificates
The Construction and Civil Engineering A.S. degree also offers the following college credit certificate programs. 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.

- Construction Specialist (18 credits) (CIP # 0615100103)
- Field Survey Technician (18 credits) (CIP # 0715020102)

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
- Project Manager
- Construction Scheduler
- Construction Superintendent
- Construction Estimator
- Building Inspector
- Construction Manager
- Building Supervisor
- General Contractor
- Plans Reviewer

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

Contacts
Future Students
To learn more about this program, contact Enrollment Services at enrollment@valenciaco.edu or 407-582-1507 or visit valenciaco.edu/construction-and-civil-engineering-technology (https://net1.valenciaco.edu/future-students/degree-options/associates/building-construction-technology).

Current Students
Contact the Career Program Advisor below.
Andrew Ray, R.A, Program Chair, West Campus: 407-582-1847 aray@valenciaco.edu
Beverly Johnson, Career Program Advisor, West Campus: 407-582-1890 bjohnson@valenciaco.edu

Internship and Workforce Services
If you need assistance with job resources or in locating an internship, please visit: valenciaco.edu/internship (http://valenciaco.edu/internship).

Program Outcomes
- Accept professional and ethical responsibilities required by industry.
- Communicate effectively with technical and non-technical audiences.
- Analyze systems and processes used to create the built environment.
- Solve design problems using algebraic and trigonometric functions.
Program Requirements

Foundation Courses

- ENC 1101  FRESHMAN COMPOSITION I *~  3
- ETD 1031C  INTRODUCTION TO CONSTRUCTION/DRAFTING TECHNOLOGY  3
- MTB 2321C  TECHNICAL MATH  3
- ETD 1103C  ENGINEERING GRAPHICS WITH CAD  3

Intermediate Courses

- Humanities  See Gen. Ed. Core or Institutional Requirement  3
- Science or Mathematics  See Gen. Ed. Core Elective ~  3
- Social Science  See Gen. Ed. Core Requirement ~  3
- SUR 1101C  BASIC SURVEYING MEASUREMENTS (Surveying I) *  3
- BCN 2405  Statics and Strength Materials *  3
- ETC 1251C  ENGINEERING MATERIALS AND PROCESSES  3
- ETD 1340C  ADVANCED CADD *  3

Specialization in Construction Management or Civil/Surveying Engineering (see below)  24

Total Credit Hours  60

Construction Management Specialization

Program Outcomes

- Plan and perform basic project management functions for construction.

Construction Management Specialization

- BCT 1705  CONTRACTS, CODES, SPECIFICATIONS, AND OFFICE PRACTICES  3
- BCN 2563  BUILDING SYSTEMS & MANAGEMENT  3
- BCN 2721C  CONSTRUCTION SCHEDULING AND MANAGEMENT  3
- BCT 2770C  BUILDING CONSTRUCTION ESTIMATING (FORMERLY BCT 2600) *  3
- TAR 1120C  ARCHITECTURAL DRAWING I *  3
- TAR 2033C  ARCHITECTURAL DESIGN *  3
- BCN 1303C  BUILDING INFORMATION MODELING (REVIT W/ DYNAMO) *  3

Technology Elective  3

Total Credit Hours  24

Construction and Civil Engineering Technology Electives

The Elective requirement may be satisfied with any course in the Course Descriptions section of the Valencia catalog with the subject prefix of BCN, BCT, ETC, ETD, ETM, SUR or TAR.

- This course has a prerequisite; check description in Valencia Catalog.
- This course must be completed with a grade of C or better.
- This is a general education course.
- Denotes a Gordon Rule course.

Notes:

- Specialized program courses are offered on the West Campus. They may not be offered every session.

Upon earning the Construction and Civil Engineering Technology 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 determine the best education plan for their career goals.

Students planning to transfer to Seminole State College must complete College Algebra and should contact Seminole State College advising for a list of courses that transfer. 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.

Civil/Surveying Engineering Specialization

Program Outcomes

- Perform basic civil/surveying techniques and related calculations

Civil/Surveying Engineering Specialization

- SUR 2202C  HIGHWAY DRAFTING AND ROUTE DESIGN *  3
- SUR 2640C  ADVANCED SURVEYING COMPUTATIONS (SURVEYING III) *  3
- SUR 2460C  SUBDIVISIONS *  3
- SUR 2390C  INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS  3
- ETC 2521C  HYDRAULICS AND HYDROLOGY  3
- TAR 2170C  INTRODUCTION TO ARCHITECTURAL REVIT  3
- BCN 1272  CONSTRUCTION BLUEPRINT READING  3
- BCN 1303C  BUILDING INFORMATION MODELING (REVIT W/ DYNAMO) *  3

Total Credit Hours  24

Construction and Civil Engineering Technology Electives

The Elective requirement may be satisfied with any course in the Course Descriptions section of the Valencia catalog with the subject prefix of BCN, BCT, ETC, ETD, ETM, SUR or TAR.

Notes:

- Specialized program courses are offered on the West Campus. They may not be offered every session.

Upon earning the Construction and Civil Engineering Technology A.S. degree, you can continue at Valencia to complete the B.A.S. degree in Business & Organizational Leadership (http://
Additional education at the bachelor’s level can enhance your skills and create more career opportunities.

Students interested in pursuing careers in Land Surveying are encouraged to contact UF-Apopka regarding the Geomatics Certificate (sfrc.ufl.edu/distance/gemcertificate). During their time at Valencia, this pathway will require students to register as a dual-major, allowing them to complete an AA degree in addition to completing the Civil/Surveying Engineering specialization in the Construction and Civil Engineering Technology AS Degree. 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.

Students who wish to continue their education should consult with their Career Program Advisor to determine the best education plan for their career goals.

### Construction Specialist

#### Technical Certificate

This certificate is designed to prepare individuals for entry-level positions working with architects, engineers, contractors, and building officials. It provides a working knowledge of estimating, scheduling, and interpreting commercial and residential blueprints. It also provides the foundation for individuals pursuing a career in building inspection and quality control.

**Program Outcomes**

- Communicate effectively with technical and non-technical audiences.
- Analyze systems and processes used to create the built environment.
- Solve design problems using algebraic and trigonometric functions.
- Plan and perform basic project management functions for construction.

**Required Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ETC 1251C</td>
<td>ENGINEERING MATERIALS AND PROCESSES</td>
<td>3</td>
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<td>BCN 2721C</td>
<td>CONSTRUCTION SCHEDULING AND MANAGEMENT</td>
<td>3</td>
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<td>BCT 2770C</td>
<td>BUILDING CONSTRUCTION ESTIMATING (FORMERLY BCT 2600)</td>
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<td>MTB 2321C</td>
<td>TECHNICAL MATH</td>
<td>3</td>
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<tr>
<td>CONSTRUCTION ELECTIVES</td>
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**Civil/Surveying Electives**

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<tr>
<td>BCN 1272</td>
<td>CONSTRUCTION BLUEPRINT READING</td>
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<tr>
<td>BCT 1705</td>
<td>CONTRACTS, CODES, SPECIFICATIONS, AND OFFICE PRACTICES</td>
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<tr>
<td>BCN 2563</td>
<td>BUILDING SYSTEMS &amp; MANAGEMENT</td>
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<tr>
<td>TAR 2170C</td>
<td>INTRODUCTION TO ARCHITECTURAL REVIT</td>
<td>3</td>
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<tr>
<td>SUR 1101C</td>
<td>BASIC SURVEYING MEASUREMENTS</td>
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<td>BCN 2941</td>
<td>INTERNSHIP EXPLORATION IN CONSTRUCTION</td>
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<tr>
<td>BCN 2942</td>
<td>INTERNSHIP IN CONSTRUCTION AND CIVIL ENGINEERING TECHNOLOGY</td>
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* This course has a prerequisite; check description in Valencia Catalog.

### Field Survey Technician

#### Technical Certificate

This certificate is designed to prepare individuals for entry-level positions working with architects, engineers, and contractors. It provides a working knowledge of surveying measurements, field work with data collection, roadway and subdivision design. It also provides the foundation for individuals pursuing a career in the civil surveying land development field by utilizing the current industry software.

**Program Outcomes**

- Communicate effectively with technical and non-technical audiences.
- Analyze systems and processes used to create the built environment.
- Solve design problems using algebraic and trigonometric functions.
- Perform basic civil/surveying techniques and related calculations

**Required Courses**

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<tr>
<td>ETD 1103C</td>
<td>ENGINEERING GRAPHICS WITH CAD</td>
<td>3</td>
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<tr>
<td>MTB 2321C</td>
<td>TECHNICAL MATH</td>
<td>3</td>
</tr>
<tr>
<td>SUR 1101C</td>
<td>BASIC SURVEYING MEASUREMENTS</td>
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<tr>
<td>SUR 2202C</td>
<td>HIGHWAY DRAFTING AND ROUTE DESIGN</td>
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<tr>
<td>SUR 2460C</td>
<td>SUBDIVISIONS</td>
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<td>Civil/Surveying Electives - see below</td>
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**Civil/Surveying Electives**

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<td>INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS</td>
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<td>HYDRAULICS AND HYDROLOGY</td>
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**NOTE:**

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