

# CONSTRUCTION TECHNOLOGY



The Construction Technology department offers multiple programs that prepare students for entry-level employment and/or potential further study in the fields of construction, construction inspection, and carpentry/millwork. Students completing these degrees/certificates will have a basic foundation for construction technology and skills that include: basic construction management, knowledge of basic building codes and code authority enforcement, basic concepts of building systems, construction plan reading and development, knowledge of computer programs utilized in managing construction projects and managing quality in construction.

Career opportunities upon successful completion of these programs include construction manager assistant, materials estimator assistant, entry-level carpentry, entry-level finish installer, entry-level concrete installers, retail sales, outside sales for building materials or services, entry-level building inspector.

## Contact Information

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## Associate Degrees

- Associate of Science in Construction Technology (AS) (<https://catalog.cos.edu/areas-study/construction-technology/associate-science-construction-technology-not-for-transfer-as/>)

## Certificates

- Certificate of Achievement in Construction Technology (<https://catalog.cos.edu/areas-study/construction-technology/certificate-achievement-construction-technology/>)
- Skill Certificate in Carpentry/Millwork (<https://catalog.cos.edu/areas-study/construction-technology/skill-certificate-carpentry-millwork/>)
- Skill Certificate in Construction Inspection (<https://catalog.cos.edu/areas-study/construction-technology/certificate-achievement-construction-inspection/>)

For a complete list of courses and descriptions visit: COURSES (<https://catalog.cos.edu/course-descriptions/>)

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**CT 100 Construction Drawing and Design Analysis 1** **4unit(s)**  
Hours: 3 Lecture/Discussion Hours:  
3 Lab

CT 100 is a basic drafting course which incorporates architectural drafting techniques and standards progressing from fundamentals to completion of light construction drawings, basic floor plans, elevations, details and respective building code analysis. The course utilizes computer automated drafting.

**CT 101 Construction Drawing and Design Analysis 2** **4unit(s)**  
Hours: 3 Lecture/Discussion Hours:  
3 Lab

Computer aided construction drafting including construction plan development, details for wood, concrete and structural steel and applicable codes.

**Advisory on Recommended Preparation:** CT 100 or equivalent college course with a minimum grade of C or equivalent skills as determined by departmental assessment.

**CT 105 Computer Assisted Construction Theory** **4unit(s)**  
Hours: 3 Lecture/Discussion Hours:  
3 Lab

A study of basic construction practices and theory including computer estimating, scheduling, and budgeting.

<p><b>CT 109 Residential Codes and Inspections</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  Study of residential building codes, residential inspections and construction management practices for residential construction. Course includes construction managers' responsibilities, key inspection points for total quality management, and construction managers' relationships with local officials, general contractor, and prospective occupants.</p>	<p><b>CT 250 Basic Carpentry and Construction Practices</b> <b>4unit(s)</b>  Hours: 3 Lecture/Discussion Hours:  3 Lab  Introduction to construction tools, materials, measuring, millwork, and basic construction practices.</p>
<p><b>CT 132 Basic Building Systems &amp; Codes</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  Basic building systems theory, including foundations, walls, roofs, mechanical, electrical, corresponding building codes and inspections. Integration of building related to the environment and human aspects of building.</p>	<p><b>CT 260 Interior Millwork</b> <b>4unit(s)</b>  Hours: 3 Lecture/Discussion Hours:  3 Lab  Students will learn safe practices while using power equipment and hand tools, proper measurements, wood identification and various aspects of interior trim. This class is intended for students with little or no prior wood shop experience, but will also challenge those with previous wood knowledge.</p>
<p><b>CT 205 Plumbing Installation and Design</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  This course offers basic plumbing theory and a study of the materials and installation procedures used in residential plumbing. Students will study the theory as well as receive hands on skill development intended for both professional plumber and non-professional plumbing students.</p>	<p><b>CT 262 Cabinet and Furniture Construction</b> <b>4unit(s)</b>  Hours: 3 Lecture/Discussion Hours:  3 Lab  This course offers concepts of cabinet design, furniture design, layout, construction, safety and millworking for building individual projects. Students will learn basic cabinet construction, and assembly of a variety of cabinet and furniture projects. In addition to cabinet construction, this course also offers a study of wood characteristics and wood joint connections. CT 262 is beneficial to students who have experience in woodworking as well as the beginner who is eager to learn more about wood working.</p>
<p><b>CT 220 Construction Practices I</b> <b>3unit(s)</b>  Hours: 2 Lecture/Discussion Hours:  4 Lab  CT 220 is an introductory class that is the first in a series of four classes that offer hands-on construction practices on a construction site. Students will learn to construct specific building projects based on plans and specifications for residential construction applications. This course will also develop skills in safe practice for using both hand and power tools, tape measure reading, and basic construction math.</p>	<p><b>CT 270 Residential Wiring</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  Students will learn practical applications of residential electrical systems, including branch circuits, distribution, transformers, system components, power calculations for voltage, current, wattage, and NEC application.</p>
<p><b>CT 221 Construction Practices 2</b> <b>3unit(s)</b>  Hours: 2 Lecture/Discussion Hours:  4 Lab  Hands-on construction practices on a construction site to construct specific building projects to plans and specifications and develop or enhance building skills with emphasis on quality management.</p>	<p><b>CT 271 Life Safety for Construction</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  Study of building codes, construction practices for building occupants, and other related building officials' safety. This course offers a study of topics in the International Residential Code which are paramount to the safety of those who dwell within. Additionally, CT 271 will also cover design criteria that involves life safety items as they pertain to residential construction.</p>
<p><b>CT 222 Construction practices 3</b> <b>3unit(s)</b>  Hours: 2 Lecture/Discussion Hours:  4 Lab  Advanced hands-on construction practices on a construction site to construct specific building projects to plans and specifications and develop or enhance building skills with emphasis on controlling construction budgets.</p>	<p><b>CT 273 Electrical Codes</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  Electrical code theory, plan review, math and field inspection for construction management and inspection professions.</p>
<p><b>CT 223 Construction Practices 4</b> <b>3unit(s)</b>  Hours: 2 Lecture/Discussion Hours:  4 Lab  CT 223 is the final course in a four course series that offers hands-on construction practices on a construction site to construct specific building projects. This course is designed to incorporate energy efficient building practices which introduce students to alternate methods of construction that promote Green Building Practices.</p>	<p><b>CT 275 Plumbing Inspection</b> <b>3unit(s)</b>  Hours: 3 Lecture/Discussion  This course offers instruction on various plumbing systems and the code requirements for each one based on the International Plumbing Code. CT 275 is intended for those who are interested in a career in Construction Inspection or those who are already involved in the field but eager to expand their current knowledge.</p>

**CT 277 Structural Inspection**

**3unit(s)**

Hours: 3 Lecture/Discussion

CT 277 Structural inspection displays principles of concrete, wood, and metal used for both residential and commercial construction. In this course, students will study the International Residential Code and develop knowledge of braced wall panels, steel frame construction, and wood frame construction. Students will also learn procedures of special inspections for steel, concrete, and other structural applications.

## **Construction Technology**

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