

**Career-Technical Credit Transfer (CT)<sup>2</sup>  
Construction Technology Career-Technical Assurance Guide (CTAG)  
February 23, 2016**

The following courses, indicated by a Career-Technical Articulation Number (CTAN), are eligible for post-secondary credit and transfer among Ohio's public secondary career-technical institutions and state institutions of higher education. The SCTAI alignment document with ODE competencies and post-secondary learning outcomes are available on the ODHE website at <https://www.ohiohighered.org/sctai/ctags>.

<b>CTCON001 Plan Reading</b>	<b>Credits: 3 Semester Hours</b>
<p><b>Advising Notes:</b> To access post-secondary credit for this CTAN, the student must:</p> <ul style="list-style-type: none"> <li>• Matriculate to an institution of higher education with a comparable course NO LATER than 3 years after completing the approved secondary program</li> <li>• Successfully complete the ODE secondary course <b>[Plan Reading (178019)]</b> with a “C” or better, and earn a score of 64 or higher on the “End of Course” examination.</li> </ul>	<p><b>CERTIFICATE OF AFFIRMATION FORM</b> required for course submission through CEMS. <a href="https://www.ohiohighered.org/transfer/ct2/affirmation">https://www.ohiohighered.org/transfer/ct2/affirmation</a></p>
<b>CTCON002 Construction Safety</b>	<b>Credits: 3 Semester Hours</b>
<p><b>Advising Notes:</b> To access post-secondary credit for this CTAN, the student must:</p> <ul style="list-style-type: none"> <li>• Matriculate to an institution of higher education with a comparable course NO LATER than 3 years after completing the approved secondary program</li> <li>• Successfully complete the ODE secondary course <b>[Construction Safety (178018)]</b> with a “C” or better and earn a score of 64 or higher on the corresponding End of Course examination.</li> <li>• Obtain a valid OSHA 30 hour card in general construction.</li> </ul>	<p><b>CERTIFICATE OF AFFIRMATION FORM</b> required for course submission through CEMS. <a href="https://www.ohiohighered.org/transfer/ct2/affirmation">https://www.ohiohighered.org/transfer/ct2/affirmation</a></p>
<b>CTCON003 Construction Methods and Materials (OAN OET016)</b>	<b>Credits: 3 Semester Hours</b>
<p><b>Advising Notes:</b> To access post-secondary credit for this CTAN, the student must:</p> <ul style="list-style-type: none"> <li>• Matriculate to an institution of higher education with a comparable course NO LATER than 3 years after completing the approved secondary program</li> <li>• Successfully complete the ODE secondary course <b>[Carpentry and Masonry Technical Skills (178001)]</b> with a “C” or better, and earn a score of 75 or higher on the “End of Course” examination.</li> </ul>	<p><b>CERTIFICATE OF AFFIRMATION FORM</b> required for course submission through CEMS. <a href="https://www.ohiohighered.org/transfer/ct2/affirmation">https://www.ohiohighered.org/transfer/ct2/affirmation</a></p>

Each CTAN identifies the learning outcomes equivalent or common to those taught in introductory technical courses. To receive credit under these agreements, career-technical programs and the state institutions of higher education must document that their course content matches the learning outcomes in the CTANS. In accordance with Ohio Revised Code 3333.162, industry standards and certifications provide documentation of student learning.

## Requirements and Credit Conditions:

1. The receiving institution must have a comparable program, major, or course(s) approved through submission to the Ohio Department of Higher Education (CT)<sup>2</sup> approval process for the CTANS listed in this document.
2. Credits apply to courses offered in the specified technical area at Ohio's public institutions of higher education. In the absence of an equivalent course, and when the institution offers the technical program, the receiving institution will guarantee to grant and apply an equivalent credit value of the Career-Technical Articulation Number (CTAN) toward the technical requirements of the specific degree/certificate program.
3. The applicant must provide proof to the receiving institution that she/he completed a course that has been approved through the (CT)<sup>2</sup> approval process and that she/he holds the appropriate credential or has passed the end-of-course assessment(s) where required.
4. A career-technical student seeking credit under the terms of this CTAG must enroll and submit their verification form to the college within three years of completing a career-technical course. Students may earn credit within the currency of the industry certificate or license.
5. A career-technical student who meets all eligibility criteria will receive the credit hour value for the comparable course(s) as offered at the receiving state institution of higher education.
6. The admission requirements of individual institutions and/or programs are unaffected by the implementation of (CT)<sup>2</sup> outcomes.
7. The transfer of credit through this CTAG will not exempt a student from the residency requirements at the receiving institution.

## **CTCON001 Plan Reading**

**General Course Description:** This course provides the context and skills required for students to interpret, visualize, and apply technical information contained within a set of construction drawings and sets the foundation for further study in design and construction. Upon completion of this course, the student will be able to interpret working drawings including scales, dimensions, notes, symbols, sections, schedules, and how the various drawing views relate to each other. Students will learn how specifications and other contract documents relate to the construction drawings.

**Credits:** 3 Semester Hours

### **Learning Outcomes:**

1. \*Interpret Views and Scales, Lines and Symbols, Plan Views, Elevation Views, and Sections and Details as they pertain to construction drawings.
2. \*Read and interpret plans within a construction drawing set including topographical, grading and drainage, architectural, structural, plumbing, mechanical, and electrical drawings.
3. \*Explain how specifications and other contract documents relate to construction drawings.
4. \*Use construction drawings to visualize a proposed project and transfer data relating to the project design.

***\*Asterisk Indicates Essential Learning Outcomes***

## **CTCON002 Construction Safety**

**General Course Description:** This course introduces occupational safety hazards associated with the construction industry. Emphasis placed on recognition, evaluation, and control of safety hazards particularly as they relate to the Occupational Safety and Health Act (OSHA) standards and requirements as they apply to the construction industry. Topics include safety and health hazards workers may face on construction work sites, safe practices, and construction safety management. Emphasis is placed on hazard identification, avoidance, control, and prevention. Upon successful completion, this course provides students with a 30 hour OSHA card.

**Credits:** 3 Semester Hours

### **Learning Outcomes:**

1. \*Identify safe practices on different construction activities (e.g. materials handling, welding, excavations, fall protection, electrical work, fire protection, etc.) and proper use of personal protective equipment, hand and power tools, cranes, scaffolds, and ladders.
2. \*Identify common safety hazards on a construction site (e.g., Focus 4: falls, electrocution, caught in or between, and struck by) and recommend proper preventive and corrective measures.
3. \*Identify and describe the primary health and environmental hazards on a construction site and be able to recommend proper preventive and/or control measures.
4. \*Communicate safe practices to team members.
5. \*Recognize the various aspects of OSHA safety regulations for the construction industry (29 CRF part 1926) including the terms used, mandatory procedures, record keeping, emergency response, compliance, inspection, and penalties.

***\*Asterisk Indicates Essential Learning Outcomes***

### **CTCON003 (OAN OET016) Construction Methods and Materials**

**General Course Description:** This course provides an overview of various common construction methods and building details and the various materials used in construction. After receiving an introduction into fundamental principles of structural, physical, and long-term performance, students learn about material and product manufacturing techniques and properties of the various materials. Topics include analyzing architectural drawings, construction terminology, sectors of the construction industry, that is, residential, commercial, industrial, institutional, and highway, and the various individuals involved in the industry.

**This CTAN is an approved OAN in the Civil/Construction Engineering Technology (CCET) TAG. The number and title are OET016 - Construction Methods and Managements.**

**Credits:** 3 Semester Hours

#### **Learning Outcomes:**

1. \*Demonstrate basic understanding of architectural blueprints.
2. \*Understand the terminology related to the building construction.
3. \*Identify the people involved in the construction industry.
4. \*Know the origin, development, and use of common building materials.
5. \*Compare methods of construction used in buildings.

***\*Asterisk Indicates Essential Learning Outcomes***

**Construction Technology Panel Participants  
Fall 2014**

John Buttelwerth Craig Wise	Cincinnati State Technical & Community College University of Akron	SCTAI Panel Lead Expert (Construction Technology) SCTAI Panel Lead Expert (Pre-Construction Design)
Tom Burns Eric Dunn Hazem Elzarka Todd Hoffman Joseph Karpinski Scott Laslo Daniel Linger Jason Sanson Geoffrey Wopershall	Cincinnati State Technical & Community College Sinclair Community College University of Cincinnati Hocking College Kent State University Columbus State Community College Stark State College Youngstown State University Stark State College	SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert SCTAI Panel Expert
Anton Harfmann Larry Miller Mac Ware	University of Cincinnati Columbus State Community College The Ohio State University	Item Writer Item Writer Item Writer
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Jim Austin	Center on Education and Training for Employment at OSU	
Pete Ross Jamilah Tucker Anne Skuce Misty McKee Jessi Spencer	Ohio Department of Higher Education Ohio Department of Higher Education Ohio Department of Higher Education Ohio Department of Higher Education Ohio Department of Higher Education	SCTAI Special Coach Director of Career-Technical Transfer Initiatives Senior Associate Director, SCTAI Assistant Director, SCTAI Administrative Coordinator, SCTAI