

Construction Trades II- Residential

Career Cluster	Architecture and Construction
Course Code	17003
Prerequisite(s)	Introduction to Architecture and Construction; Construction Trades I
Credit	.5-1
Program of Study and Sequence	Foundation Course-Introduction to Architecture and Construction- Construction Trades I
Student Organization	SkillsUSA
Coordinating Work-Based Learning	Shadowing, speakers, internships, apprenticeships
Industry Certifications	OSHA 10
Dual Credit or Dual Enrollment	TBD
Teacher Certification	Architecture & Construction Cluster Endorsement; Construction Pathway Endorsement; Building Trades Endorsement
Resources	

Course Description:

Students will gain in depth knowledge of residential construction by identifying and demonstrating correct safety procedures, construction math, blueprint reading and basic surveying techniques. The student will also be able to identify building products, and safely and correctly use various hand/power/pneumatic tools. Concrete construction applications and construction of a residential house will be the main thrust of this course. The student will be able to frame floor, wall and ceiling/roof systems. Once the framing is complete the student will install windows and doors, apply thermal and moisture protection, apply exterior sheathing along with exterior siding and roofing material. Interior work will be performed by installing drywall, installing cabinets and conducting interior finish work. The concept of stair layout and construction will be incorporated in this class. Basic residential electrical and plumbing will be performed as it relates to the necessary requirements in the building process. The National Center for Construction Education & Research (NCCER) competencies/objectives are followed as a resource.

Program of Study Application

This is the fourth course in the suggested sequence of the Architecture and ConstructionR Program of Study. It is recommended that it is preceded by (1) Foundation Courses, (2) Introduction to Architecture and Construction, and (3) Construction Trades I; and followed by (5) Capstone Experience.

Course Standards

Indicator # CTIIR 1 Understand and apply industry safety procedures

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 1 Recall	CTIIR1.1 Demonstrate proper industry safety standards.	

Indicator # CTIIR 2: Utilize appropriate industry math skills and formulas

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 3 Strategic Thinking	CTIIR2.1 Understand and demonstrate basic math skills.	

Notes:

Indicator # CTIIR 3 Understand concepts of blueprint reading and perform basic survey techniques

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR3.1 Demonstrate how to read blueprints.	
Level 3 Strategic Thinking	CTIIR3.2 Demonstrate survey techniques and site layout.	

Notes:

Indicator # CTIIR 4 Identify and understand wood building materials, fasteners, and adhesives

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 1 Recall	CTIIR4.1 Understand and demonstrate the use of wood building materials.	
Level 1 Recall	CTIIR4.2 Understand and demonstrate the use of fasteners and adhesives.	

Indicator # CTIIR 5 Identify and correctly use appropriate hand, power and pneumatic tools

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR5.1 Demonstrate safe and proper use of hand tools.	
Level 2 Skill/ Concept	CTIIR5.2 Demonstrate safe and proper use of power tools.	
Level 2 Skill/ Concept	CTIIR5.3 Demonstrate safe and proper use of pneumatic tools.	

Indicator # CTIIR 6 Integrate concrete technology to achieve thorough construction background

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 3 Strategic Thinking	CTIIR6.1 Understand and demonstrate the uses of concrete and reinforcing materials.	

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Indicator # CTIIR 7 Understand and perform framing of flooring, wall, ceiling and roofing systems

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR7.1 Understand and demonstrate framing of flooring systems	
Level 3 Strategic Thinking	CTIIR7.2 Understand and demonstrate framing of wall and ceiling systems.	

Level 3 Strategic Thinking	CTIIR7.3 Understand and demonstrate framing of a roofing systems.	
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Indicator # CTIIR 8 Understand and demonstrate installation of windows and exterior doors

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR8.1 Understand and demonstrate installation of windows.	
Level 2 Skill/ Concept	CTIIR8.2 Understand and demonstrate installation of exterior doors.	

Notes:

Indicator # CTIIR 9 Identify and perform different exterior finishing methods

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR9.1 Understand and demonstrate installation of exterior finish.	

Notes:

Indicator # CTIIR 10 Identify and understand different roofing applications

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/	CTIIR10.1 Understand and demonstrate installation of roofing materials. •	

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Notes:

Indicator # CTIIR 11 Understand the importance of, and properly install, thermal and moisture protection

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR11.1 Understand and demonstrate installation of thermal and moisture protection.	

Indicator # CTIIR 12 Perform drywall installation and finishing techniques

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR12.1 Understand and demonstrate drywall installation.	
Level 2 Skill/ Concept	CTIIR12.2 Understand and demonstrate drywall finishing.	

Indicator # CTIIR 13 Understand methods and complete interior finish work

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR13.1 Understand and demonstrate interior finishing.	

Indicator # CTIIR 14 Understand the cabinet manufacturing process and install cabinets

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/	CTIIR14.1 Understand basic cabinet design and installation.	

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Indicator # CTIIR 15 Understand and demonstrate installation of stairs.

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR15.1 Identify the various types and parts of stairs.	
Level 2 Skill/ Concept	CTIIR15.2 Using appropriate math formula calculate the number and sizes of risers and treads for a stairway.	
Level 2 Skill/ Concept	CTIIR15.3 Layout and cut stringers.	

Indicator # CTIIR 16 Study the principles and standards of Basic Residential Electric and Plumbing applications

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR16.1 Understand and demonstrate basic residential electric and plumbing applications.	

Indicator # CTIIR 17 Student will participate in career exploration activities

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 2 Skill/ Concept	CTIIR17.1 Research career opportunities in the Architecture and Construction fields.	