Alabama Department of Postsecondary Education

Representing the Alabama Community College System

STATEWIDE CAREER/TECHNICAL EDUCATION COURSE ARTICULATION REVIEW MINUTES

Articulation Agreement Identifier: BUC 115 (2007-1) Identifier is the postsecondary course prefix followed by Plan-of-Instruction version number (e.g.; INT 100 (2007-1)).

Applicable CIP code(s): 46.0499

Postsecondary course prefix, number, and title: BUC 115 Roof and Ceiling Framing

Secondary Education course(s) title and number: 430112/410007 - Construction Framing, **OR** 430901/430035 - Carpentry for Residential Exteriors + 431301/430030 - Carpentry I + 431302/430031 - Carpentry II

Initial Review: February 25, 2010 Annual DPE Review: January 30, 2012

Effective date: **Fall Semester 2011**.

Course Content Analysis (all postsecondary course objectives must be sufficiently addressed in the secondary courses):

Notes:

1. **Skills and knowledge contained in the postsecondary course objectives must be present in the corresponding secondary objectives for a "match" to occur.**
2. **Postsecondary and Secondary objectives must reflect similar content and performance levels before the course articulation agreement will be recommended to the TEDAC Oversight Committee.**
3. **More than one Secondary course may be used in order to articulate to a Postsecondary course.**

Postsecondary Course Objectives	Secondary Objectives and Location(s)	TEDAC Comments
A1.0 Value the importance of following proper job safety for framing a ceiling. A1.1 This competency is measured affectively. A1.1.1 Explain the importance of following proper job safety procedures for framing a ceiling.	**Construction Framing, Unit 2, Safety Content Standard** 2. Demonstrate job site safety in frame construction. **Learning Objective** 1. List skills required in the field of carpentry. 2. Identify equipment found in the carpentry laboratory. 3. List related careers in the construction industry. 4. Explain the basic safety obligations of workers, supervisors, and managers to ensure a safe workplace. 5. Discuss the causes and results of accidents and the dangers of rationalization of risk. 6. Review the role of company policies and OSHA regulations in maintaining a safe working environment. 7. Understand common job-site hazards and protections, such as lockout/tagout, personal protection equipment (PPE), MSDS documents, and HazCom procedures and policies. **OR** **Carpentry I, Unit 2, Hand and Power Tools Content Standard** 2. Demonstrate the proper use of hand and power tools used in carpentry. **Learning Objectives**	

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	1. Obtain safe operation skills regarding tools and equipment. 2. Identify hand and power tool functions and applications. 3. Inspect and maintain tools and equipment for safe operation. 4. Accomplish safe hands-on use of tools and equipment. 5. Demonstrate the safe and appropriate use and maintenance of various portable power tools. 6. Demonstrate the safe and appropriate use and maintenance of various stationary power tools. 7. Demonstrate the safe and appropriate use and maintenance of various pneumatic power tools. 8. Demonstrate the safe and appropriate use and maintenance of various powder actuated power tools.	
A2.0 Safely frame a ceiling. A2.1 Layout a ceiling and cut and install blocking and ceiling joists. A2.1.1 Identify the components of a basic ceiling layout. A2.1.2 Describe the correct procedure for laying out a basic ceiling. A2.1.3 Identify the different types of basic ceiling framing. A2.1.4 Explain how to cut and install ceiling joists and blocking.	**Construction Framing, Unit 10, Ceiling Framing Content Standard** 10. Design a ceiling framing system for a structure. • Demonstrating the installation of ceiling joists • Explaining the use of headers in two-story structures • Demonstrating the installation of rough openings for stairs, attic access, and chimneys **Learning Objective** 1. Layout and design a ceiling framing system.	

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	2. Identify the components of a ceiling layout. 3. Describe the correct procedure for laying out ceiling joists. 4. Layout, cut, and installs ceiling joists on a wood frame building. 5. Install rough openings for stairs, attic access, and chimneys. **OR** **Carpentry II, Unit 5-10, Wall & Ceiling Framing Content Standard** 5. Identify components of a wall and ceiling layout. 6. Identify common materials and methods used for installing sheathing on walls. 7. Construct exterior walls for a frame building, including laying out, assembling, erecting, and bracing to specifications. 8. Demonstrate wall framing techniques used in masonry construction. 9. Demonstrate the installation of ceiling joists on a wood frame building according to specifications. 10. Calculate an estimate of materials required to frame walls and ceilings. **Learning Objectives** 1. Measure and layout dimensions for wall and ceiling frame components. 2. Identify and select correct materials and construction processes/methods for applying wall sheathing.	

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	3. Construct and assemble exterior (load-bearing) walls per wood frame specifications. 4. Calculate dimensions for elevations and wall frame spacing on interior and exterior concrete block walls. 5. Measure, layout, and assemble ceiling joists according to drawings and specifications. 6. Calculate material quantities required for wall and ceiling frame systems using computer software, construction drawings, and specifications.	
B1.0 Value the importance of following proper job safety for framing a roof. B1.1 This competency is measured affectively. B1.1.1 Explain the importance of following proper job safety procedures for framing a roof.	**Construction Framing, Unit 2, Safety Content Standard** 2. Demonstrate job site safety in frame construction. **Learning Objective** 1. List skills required in the field of carpentry. 2. Identify equipment found in the carpentry laboratory. 3. List related careers in the construction industry. 4. Explain the basic safety obligations of workers, supervisors, and managers to ensure a safe workplace.	

Postsecondary Course Objectives	Secondary Objectives and Location(s)	TEDAC Comments
	5. Discuss the causes and results of accidents and the dangers of rationalization of risk. 6. Review the role of company policies and OSHA regulations in maintaining a safe working environment. 7. Understand common job-site hazards and protections, such as lockout/tagout, personal protection equipment (PPE), MSDS documents, and HazCom procedures and policies. **OR** **Carpentry I, Unit 2, Hand and Power Tools Content Standard** 2. Demonstrate the proper use of hand and power tools used in carpentry. **Learning Objectives** 1. Obtain safe operation skills regarding tools and equipment. 2. Identify hand and power tool functions and applications. 3. Inspect and maintain tools and equipment for safe operation. 4. Accomplish safe hands-on use of tools and equipment. 5. Demonstrate the safe and appropriate use and maintenance of various portable power tools. 6. Demonstrate the safe and appropriate use and maintenance of various stationary power tools. 7. Demonstrate the safe and appropriate use and maintenance of various pneumatic power tools.	

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	8. Demonstrate the safe and appropriate use and maintenance of various powder actuated power tools.	
B2.0 Safely frame a roof. B2.1 Layout a roof, cut and install rafters, install decking and felt, cornice and soffet. B2.1.1 Understand the terms associated with roof framing. B2.1.2 Identify the different types of roofs. B2.1.3 Identify and describe various tools essential for roof layout and framing. B2.1.4 Describe the basic procedures for laying out and framing a roof. B2.1.5 Identify the basic roof framing components. B2.1.6 Describe how to layout and frame a gable roof. B2.1.7 Describe how to layout and frame a hip roof. B2.1.8 Describe how to layout and frame hips and valleys. B2.1.9 Identify and calculate the length of a rafter using various methods. B2.1.10 Describe how to cut and install rafters. B2.1.11 Identify the various types of trusses used in roof	**Carpentry II, Unit 11-16, Roof Framing** **Content Standard** 11. Demonstrate methods used to calculate the length of a rafter. 12. Identify various types of trusses used in roof framing. 13. Construct framing for a gable roof with vent openings according to specifications. 14. Construct framing for a roof opening according to specifications. 15. Use trusses to erect a gable roof according to specifications. 16. Estimate materials used in framing and sheathing a roof. **Learning Objective** 1. Explain terms associated with roof framing systems. 2. Identify roof framing components. 3. Describe methods used to determine rafter lengths.	

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	framing.	4. Identify various types of roof systems.	
B2.1.12	Explain how to install a truss.	5. Estimate material quantities for roof framing members and sheathing.	
B2.1.13	Explain the construction of Dormers.	**Carpentry for Residential Exteriors, Unit 9-18, Roofing Applications**	
B2.1.14	Describe how to frame different roof openings.	**Content Standard**	
B2.1.15	Describe how to frame a cricket and saddle.		
B2.1.16	Explain the use of roof projections and their construction.	9. Identify materials and methods used in roofing.	
B2.1.17	Describe roof decking installation and preparation.	• Illustrating various roofing methods	
B2.1.18	Identify the types and parts of common cornices and soffets.	10. Explain safety requirements for roof applications.	
B2.1.19	Explain installation procedures for common cornices and soffets.	11. Demonstrate the installation of fiberglass shingles on gable and hip roofs.	
.		12. Demonstrate closing valley using fiberglass shingles.	
		13. Demonstrate procedures used to make roof projections watertight, including fiberglass shingles and wood shingles.	
		14. Demonstrate the installation of the main and hip ridge caps using fiberglass shingles.	
		15. Demonstrate the layout, cutting, and installation of a cricket or saddle.	
		16. Install wood shingles and shakes on roofs.	
		17. Describe how to close a valley using wood shingles and shakes.	
		18. Demonstrate the installation of the main and hip ridge caps using wood shakes or shingles.	
		Learning Objective	
		1. Determine proper materials and methods for different types of roof systems.	
		2. Assemble various types of roof applications using	

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	different methods. 3. Produce OSHA safety fact sheets regarding roof construction safety requirements. 4. Construct a fiberglass roofing system for gable and hip roofs. 5. Demonstrate the proper method for valley closing on fiberglass shingles. 6. Layout, cut, and constructs a cricket on a roofing system. 7. Layout, cut, and constructs a saddle on a roofing system. 8. Demonstrate proper installation of wood shingles and shakes on a roofing system. 9. Properly close a valley using wood shingles and shakes. 10. Install main and hip ridge caps using wood shakes and shingles. **OR** **Construction Framing, Unit 14-16, Roof Framing Content Standard** 14. Identify types of roofs used on structures. Examples: hip, gable, gambrel, shed 15. Compare conventional and truss roof systems for structures. • Laying out common, hip, and valley rafters • Laying out a truss using a framing square • Demonstrating the installation of rough openings for vents, skylights, and chimneys 16. Compare various decking materials for roof systems. Examples: tongue and groove plywood, plywood,	

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	oriented strand board **Learning Objective** 1. Identify and describe roof types. 2. Describe the difference between truss and stick framing roof structures. 3. Demonstrate methods for laying out hip and valley rafters. 4. Layout a truss using a framing square. 5. Install rough openings for vents, skylights, and chimneys. 6. Identify various decking materials for roof systems.	