Alabama Department of Postsecondary Education

Representing the Alabama Community College System

STATEWIDE CAREER/TECHNICAL EDUCATION COURSE ARTICULATION REVIEW MINUTES

Articulation Agreement Identifier: BUC 121 (2008-1) 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 121 Floors and Walls Framing

Secondary Education course(s) title and number: 431301/430030 - Carpentry I + 431302/430031 - Carpentry II **OR** 430112/410007 - Construction Framing + 430113/410008 - Construction Finishing & Interior Systems

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 Use trade techniques to install various floors. A1.1 Safely layout, and construct an above the ground floor assembly. A1.1.1 Identify the different types of flooring systems. A1.1.2 Read and understand drawings and specifications to determine floor system requirements. A1.1.3 Identify floor and sill framing and support members. A1.1.4 Describe the method used to fasten sills to the foundations. A1.1.5 Describe the various types of girders and their uses. A1.1.6 Given specific floor load and span data, select the proper joist size from a list of available joists. A1.1.7 Describe the different types of bridging. A1.1.8 Describe different types of flooring materials and describe where and when each would be used. A1.1.9 Explain the purpose of sub flooring and underlayment. A1.1.10 Match selected fasteners used in floor underlayment to their correct uses. Alternate Competency based on project A1.2 Slab construction. This competency is measured cognitively unless an actual slab is to be poured. A1.2.1 Explain various code considerations when digging foundations. A1.2.2 Explain various considerations for constructing forms for footings. A1.2.3 Explain various code considerations for the use of	**Construction Framing, Unit 5-6, Floor Systems Content Standard** 5. Compare advantages of concrete flooring systems and wood flooring systems. 6. Design a floor framing system for a structure. • Describing the purpose of a sill used in structures • Demonstrating the layout of joist headers and floor joists used in structures • Contrasting various subfloor materials used in structures Examples: tongue and groove plywood, plywood, oriented strand board, shiplap boards • Demonstrating the installation of a subfloor for a structure **Learning Objective** 1. Identify different types of flooring systems. 2. Identify floor and sill framing and support members. 3. List different types of floor joists. 4. Explain the purposes of subflooring and underlayment. 5. Demonstrate the ability to layout and construct a floor assembly. 6. Demonstrate the ability to install a subfloor. **OR** **Carpentry I Unit 15-18 Floor Systems Content Standard** 15. Interpret drawings and specifications to determine floor system requirements	

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reinforcement. A1.2.4 Describe various considerations prior to pouring concrete. A1.2.5 Explain various safety considerations prior to pouring concrete	16. Identify floor and sill framing support members 17. Select proper girder or beam size according to specific floor load and span data • Selecting the proper joist size according to specific floor load and span data 18. Construct floor system in accordance with drawings and specifications • Calculating an estimate for materials needed to frame a floor assembly **Learning Objective** • Identify various types of floor framing systems • Comprehend drawings and specifications regarding floor framing systems • Identify floor framing components • Determine types of floor / foundation anchors and fasteners • Understand load and span data tables • List purpose and types of floor system materials and underlayment • Estimate material quantities for various floor system designs	
A2.0 Value the importance of proper floor layout safety. A2.1.1 Describe various job site hazards associated with laying out and constructing a floor. A2.1.2 Explain the uses of various personal protective equipment items.	**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.	

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	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** 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	

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	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.	
B1.0 Use trade techniques to frame and erect a wall. B1.1 Layout, assemble, brace, and erect walls for a frame building. B2.1 This objective is affectively surveyed. B3.1 This objective is affectively surveyed. B4.1 Demonstrate the installation procedures for placing selected doors, windows, and frames. B1.1.1 Explain the various types of wall framing. B1.1.2 Identify components of a wall layout. B1.1.3 Describe the procedure for laying out a wood frame wall, including plates, sills, corner posts, headers, door and window openings, partition Ts, bracing, and fire-stops. B1.1.4 Describe the correct procedure for erecting a wall. B1.1.5 Describe common materials and methods used for	**Carpentry II, Unit 5-10 Wall and 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 Objective**	

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installing sheathing on exterior walls. **B2.0 Value the importance of proper layout, squaring and plumbing of walls.** B2.1.1 Describe the importance of insuring that walls are plumb and square.	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. 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. **OR** **Construction Framing, Unit 7-9, Wall Framing Content Standard** 7. Design a wall framing system for a structure. • Comparing the use of wood and metal wall framing components • Describing the use of a sole plate in structures • Demonstrating the construction of corner posts with and without blocking • Demonstrating the use and installation of full, cripple, and trimmer studs • Demonstrating the installation of a double top plate in structures • Demonstrating the installation of rough openings for doors and windows, including headers • Demonstrating techniques for bracing a wall	

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	8. Compare various wall sheathing materials for structures. Examples: foam board, oriented strand board, insulating board, plywood 9. Explain the importance of vapor barriers used in wall framing. • Comparing the advantages of using plastic and building felt as vapor barriers in walls **Learning Objective** 1. Describe the advantages of wood wall framing. 2. Describe the advantages of metal wall framing. 3. Describe the purpose of a sole plate in structures. 4. Construct corner posts with and without blocking. 5. Install full, cripple, and trimmer studs and explain their use. 6. Construct and install a double top plate. 7. Construct rough openings for doors and windows, including headers. 8. Demonstrate the proper method to brace a wall. 9. Identify and describe wall sheathing materials for structures. 10. Describe the importance of vapor barriers. 11. Discuss the differences in plastic and building felt as vapor barriers in walls.	
B3.0 Value the importance of wall framing safety.	**Construction Framing, Unit 2, Safety Content Standard**	

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B3.1.1 Describe various job site hazards associated with laying out and constructing a wall. B3.1.2 Explain the uses of various personal protective equipment items.	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** 1. Obtain safe operation skills regarding tools and equipment. 2. Identify hand and power tool functions and applications.	

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	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.	
B4.0 Install doors and windows. B4.1.1 Identify various types of doors and frames. B4.1.2 Identify various types of door hardware. B4.1.3 Identify specified items on a typical door schedule. B4.1.4 Explain installation procedures for typical doors. B4.1.5 Identify various types of windows and frames. B4.1.6 Identify various types of window hardware. B4.1.7 Identify specified items on a typical window schedule. B4.1.8 Explain installation procedures for typical windows.	**Carpentry II, Unit 17-18, Windows and Exterior Doors Content Standard** 17. Install a pre-hung window. 18. Install a pre-hung exterior door with a lockset. **Learning Objective** 1. Identify various types of fixed, sliding, and swinging windows. 2. Demonstrate proper window installation. 3. Identify common types of skylights and roof windows. 4. Describe common types of exterior doors.	

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	5. Describe various construction processes for exterior doors. 6. Identify various exterior units, components, and hardware. 7. Demonstrate proper roll-up garage door installation procedures. 8. Assemble and install locksets, hardware, and metal thresholds. **OR** **Construction Finishing & Interior Systems, Unit 3-4, Windows and Doors** **Content Standard** 3. Demonstrate the installation of a window in a structure. Identifying various types of windows Examples: casement, storm, fixed, sliding, double-hung 4. Demonstrate the installation of a door in a structure. Identifying various types of materials used for door construction Examples: wood, metal, fiberglass Identifying types of thresholds used with exterior doors Installing door hardware Examples: hinges, locksets, dead bolt locks **Learning Object** 1. Demonstrate the proper installation of various types of windows in structures. 2. Identify various types of windows. 3. Install various door types in structures. 4. Identify and list types of materials used in door construction.	

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	5. Identify various types of thresholds used with exterior doors. 6. Install hardware used on doors.	