

ATFL-1310: SHEET GOODS CONCEPTS

Cuyahoga Community College

Viewing: ATFL-1310 : Sheet Goods Concepts

Board of Trustees:

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Academic Term:

Fall 2026

Subject Code

ATFL - Appld Indus Tech - Floorlaying

Course Number:

1310

Title:

Sheet Goods Concepts

Catalog Description:

This course covers installation procedures for double glue#down carpet and the hand#fitting of flexible materials. Students will be introduced to various types of resilient flooring and learn to recognize the tools used in resilient#flooring applications. Training includes effective communication, substrate preparation, material handling, running rows, and cutting seams in carpet.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

Departmental approval and admission to Floorlaying Technology apprenticeship program.

Outcomes

Course Outcome(s):

Demonstrate the ability to handle flooring materials safely and discuss the basics of concrete and communication skills.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Identify the types of sheet goods: carpet and resilient flooring.
2. Describe how different types of resilient flooring are manufactured.
3. List and define the terms related to sheet goods products.
4. Discuss the basics and specifications of concrete.
5. Demonstrate the proper way to safely move flooring materials.
6. Discuss why communication skills are important for floor layers.

Course Outcome(s):

Identify and describe the specialty flooring installation tools.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Identify resilient flooring hand and power tools.
2. Describe how to safely use and maintain resilient flooring hand and power tools.
3. Identify and select the proper tools for a specific patching method.
4. Describe the seaming tools commonly used to install carpet.
5. Explain the importance of applying the recommended amount of adhesive.
6. Describe the process of hand cutting sheet goods.

Course Outcome(s):

Describe how to identify some common substrate defects and the patching methods to correct them. Select the proper tools, primer and patching compound for the repair.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Identify the common substrate defects.
2. Select the proper tools for a specific patching method.
3. Identify and select the correct primer when required.
4. Select the appropriate patching compound.
5. Check the flatness of the substrate with a dry line or straight edge.
6. Demonstrate the proper application procedures for correcting various substrate defects.

Course Outcome(s):

Describe the different types of carpet and how to cut them for making seams.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Identify the various tools needed to cut seams in the different types of carpet.
2. Demonstrate the ability to run rows in different types of carpet.
3. Select the proper tool and cut the carpet on a row.
4. Demonstrate how to make a seam using the row and trace method.
5. Demonstrate the ability to cut a carpet seam with a straight edge.
6. Describe how and when to cut a carpet seam using the double cut method.

Course Outcome(s):

Demonstrate the ability to hand fit rotogravure sheet goods around obstacles such as tubs, pipes and toilets.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Describe how to install rotogravure sheet goods in a residential setting.
2. Identify the construction of rotogravure sheet vinyl.
3. Describe the process of hand cutting sheet flooring.
4. Demonstrate how to hand fit straight walls, inside and outside corners.
5. Demonstrate the ability to fit around pipes and to tubs and toilets.

Course Outcome(s):

Demonstrate the ability to install a complete double glue carpet installation.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Quantitative Reasoning: Analyze problems, including real-world scenarios, through the application of mathematical and numerical concepts and skills, including the interpretation of data, tables, charts, or graphs.

Objective(s):

1. Calculate the amount materials needed for a double glue installation.
2. Describe how to install a double glue installation.
3. Demonstrate the double glue cushion installation.
4. Determine the difference in trowel notch size for adhering the cushion vs. carpet.
5. Demonstrate the ability to install a double glue carpet.

Methods of Evaluation:

All students will be evaluated during the first two weeks and at mid-term. Progress reports will be issued per procedure. Additional course evaluations and final examination are detailed below:

1. Quizzes
2. Tests
3. Class participation

Course Content Outline:

- I. Types of Resilient Flooring
 - A. Terminology
 - B. History
 - C. Asbestos in resilient flooring
 1. Safety hazard
 - D. Vinyl flooring
 1. Characteristics
 - a. Sheets
 - b. Tile
 - c. Uses
 2. Manufacturing
 - a. Components of vinyl compounds
 - b. Homogeneous sheet vinyl
 - c. Inlaid sheet vinyl
 - d. Heterogeneous sheet vinyl
 - e. Felt backing
 - f. Foam, design and wear layers
 - E. Rubber flooring
 1. Characteristics
 - a. Tile and sheets
 - b. Storage and handling
 2. Manufacturing rubber flooring
 - F. Linoleum flooring
 1. Characteristics
 - a. Metric dimensions
 2. Manufacturing linoleum flooring
 - a. Stretching
 - b. Stove bar marks

II. Introduction and Specification of Concrete

- A. Types of Portland cements
 1. Properties

B. Safety in working with concrete

1. Burns
2. Eye hazards
3. Dust hazards
4. Moving heavy materials

C. Specifications of concrete

1. Mixing, placing and curing
 2. Requirements for inclement weather
 3. Forms, reinforcement and joints
 - a. Design of forms
 - b. Placement of reinforcement
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III. Communication Skills

A. Listening

B. Spoken

C. Effective communication

1. Surviving evaluations
 2. Controlling confrontations
 3. Clear and accurate writing
 4. Nonverbal communication
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IV. Specialty Flooring Installation Tools

A. Resilient flooring tools

1. Hand tools
 - a. Hand cutting tools
 - i. Scoring
 - ii. Seam cutting
 - iii. Skiving
 - iv. Safety and maintenance
 - v. Rollers
2. Power tools
 - a. Heating tools
 - b. Power groover
 - c. Resilient heat welders
 - d. Compound miter saw
 - e. Safety and maintenance
3. Equipment for moving materials
 - a. Furniture and appliance skids
 - b. Linoleum dolly
 - c. Two# and four#wheeled carts
 - d. Flat cart
- B. Carpet installation tools
4. Cutting and trimming tools
 - a. Carpet knife
 - b. Pad knife
 - c. Cushion back cutter
 - d. Loop pile cutter
 - e. Scissors
5. Seaming tools
 - a. Napping shears
 - b. Row finder
 - c. Seam rollers
6. Fastening tools
 - a. Drive bar
 - b. Staplers
 - c. Notched trowels
- C. Substrate repair tools
7. Skim coat and encapsulating adhesive
 - a. Trowels
 - i. Notched trowel
 - ii. Finishing trowel

- b. Power drill and paddle
 - c. Broad knife
 - 8. Deep fills and ramps
 - a. Screeds
 - b. Aggregate
 - c. Drying time
 - 9. Substrate major repairs
-

V. Identifying Substrate Defects

A. Wood substrate defects

- 1. Improper subfloor
- 2. Insufficient anchoring
- 3. Uneven finish levels
- 4. Delamination or rot
- 5. High floor joists

B. Concrete substrate defects

- 1. Control and expansion joints
- 2. Cracks
- 3. Porosity
- 4. Spalling
- 5. Uneven finish levels
- 6. High and low areas

C. Lightweight concrete defects

- 1. Gypsum#based underlayments
- 2. Surface abrasion

D. Metal subfloor defects

- 1. Rust and flaking metal
- 2. Unbonded metal or foil liner
- 3. Welds in the metal decking

E. Existing resilient flooring defects

- 1. Bubbles
 - 2. Curled edges
 - 3. Loose or missing tile
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VI. Substrate Repair and Patching Procedures

A. Estimating quantity

B. Skim coat, encapsulating and embossing leveler

- 1. Select tools and materials
- 2. Mix
- 3. Application thickness
- 4. Spreading technique
 - a. Place material on floor
 - b. Trowel flat
- 5. Drying time
- 6. Sand

C. Deep areas and ramps

- 1. Select tools, materials and primer
 - 2. Prime fill area
 - 3. Mix
 - 4. Add aggregate
 - 5. Place material
 - 6. Smooth with screed
 - 7. Dry time
 - 8. Add additional coats as necessary
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VII. Cutting Seams in Different Types of Carpet

A. Types of carpet

1. Loop pile
2. Level loop
3. Patterned carpet

B. Patterned carpet conditions

1. Pattern elongation
2. Trueness of edge
3. Bow or skew

C. Seam cutting

1. Tools
 - a. Various row finders
 - b. Loop pile cutter
 - c. Cushion back cutter
 - d. Straight edge
 - e. Two-foot square
2. Seam cutting methods
 - a. Row to row
 - i. Manufacturer's most common method
 - ii. Row finder on both sides
 - iii. Follow row with cutter
 - b. Row to trace cut
 - i. Row finder on one side
 - ii. Follow row with cutter
 - iii. Overlap second piece
 - iv. Use cushion back cutter to follow edge
 - v. Remove cut scrap
 - c. Straight edge to square
 - i. Straight edge one side
 - ii. Overlap second piece
 - iii. Line up square to edge
 - iv. Cut second piece
 - d. Double cut
 - i. Overlap carpet edges three inches
 - ii. Cut through both pieces
 - iii. Remove both scraps
 - e. Freehand serpentine
 - i. Overlap carpet edges six inches
 - ii. Cut serpentine pattern through both pieces
 - iii. Remove both scraps

VIII. Hand Fitting Rotogravure Vinyl

A. Layout vinyl

1. Balance material

B. Begin to fit

1. Outside corner relief cuts
2. Inside corner relief cuts
3. Final net fitting of walls

C. Hand fitting around obstacles

1. Door casings
 - a. Relief cut at each side
 - b. Complete corner relief cuts
 - c. Remove excess material
 - d. Net fit around doorway
2. Pipes
 - a. Relief cut at center
 - b. Successive relief cuts
 - c. Align seam behind pipe
 - d. Net fit around pipe
 - e. Net fit back wall
3. Toilets
 - a. Fold material back to front

- b. Measure seam behind toilet
 - c. Cut seam and rough cut
 - d. Cut a T in front
 - e. Relief cuts front to back
 - f. Align seam and anchor
 - g. Remove excess
 - h. Net fit around toilet
4. Bath tubs
- a. Align material at tub wall
 - b. Rough cut to one inch
 - c. Wrap around outside radius
 - d. Relief cuts
 - e. Push to inside radius
 - f. Relief cuts
 - g. Net fit around tub wall

IX. Double Glue Carpet Installation

A. Preparation

1. Prepare substrate
 - a. Clean
 - b. Patch
2. Measure and cut cushion

B. Cushion

1. Layout
 - a. Along starting wall
 - b. Butt seams
 - c. Rough cut
 - d. Fold back
 - e. Apply adhesive
 - i. Allow proper open time
 - f. Place cushion into adhesive
 - g. Roll with non-weighted roller
 - h. Trim to net fit
- C. Double glue carpet with double glue seam tape

2. Preparation

- a. Cut carpet to size
- b. Determine starting point

3. Cushion installation

- a. Cushion seams
- b. Apply adhesive
- c. Install cushion

4. Carpet

- a. Layout
 - i. Mark, cut and seal seams
 - ii. Align seams with slight overlap
 - iii. Weigh down carpet
 - iv. Tube carpet back
 - v. Snap spread lines
- b. Apply adhesive
 - i. Place carpet into adhesive
 - ii. Roll carpet
 - iii. Adhere other side
- c. Anchor seam tape
- d. Apply adhesive to cushion up to seam tape
- e. Place carpet fill section
- f. Make hot melt seam
- g. Roll carpet

Religious Accommodation

Before reviewing the course schedule, students should carefully review the following religious accommodation policy and other required instructional policies:

Religious Accommodation:

Students seeking an accommodation for absences permitted under Ohio's Testing Your Faith Act must provide the instructor with written notice of the specific dates for which the student requires an accommodation and must do so not later than fourteen (14) days after the first day of instruction. Please submit requests for accommodations at this link: [https://portal2.tri-c.edu/ReligiousAccommodation/Religious Accommodation Form](https://portal2.tri-c.edu/ReligiousAccommodation/ReligiousAccommodationForm). Students with questions about their religious accommodations under Ohio's Testing Your Faith Act may contact the College's Office of General Counsel and Legal Services by phone at 216.987.4856 or via email at legal@tri-c.edu.

Other Required Instructional Policies:

<https://www.tri-c.edu/student-resources/curriculum/documents/syllabus-part-b.pdf>

Weekly Schedule

	Topics
Week 1	Topic: Types of Resilient Flooring Terminology History Overview of resilient flooring categories
Week 2	Topic: Asbestos in Resilient Flooring Identifying asbestos-containing flooring Safety hazards Regulatory considerations
Week 3	Topic: Vinyl Flooring: Characteristics Sheet vinyl Vinyl tile Uses and performance
Week 4	Topic: Vinyl Flooring: Manufacturing Vinyl compounds Homogeneous, inlaid, heterogeneous sheet vinyl Backing, foam, wear layers
Week 5	Topic: Rubber & Linoleum Flooring Rubber flooring characteristics and manufacturing Linoleum characteristics, dimensions, and production
Week 6	Topic: Introduction to Concrete Types of Portland cement Concrete properties
Week 7	Topic: Concrete Safety & Specifications Burns, dust, eye hazards, lifting Mixing, placing, curing Weather requirements Forms, reinforcement, joints
Week 8	Topic: Communication Skills Listening and speaking Surviving evaluations Managing confrontations Clear writing and nonverbal communication

Week 9	Topic: Resilient Flooring Tools
	Hand tools Cutting tools Power tools Heating tools Material#moving equipment
Week 10	Topic: Carpet Tools & Substrate Repair Tools
	Carpet cutting and trimming tools Seaming tools Fastening Tools Substrate repair tools
Week 11	Topic: Identifying Substrate Defects
	Wood, concrete, lightweight concrete, metal Existing resilient flooring defects
Week 12	Topic: Substrate Repair & Patching
	Skim coats, encapsulating adhesives, embossing levelers Deep fills, ramps, aggregates Drying times
Week 13	Topic: Carpet Seam Cutting
	Loop pile, level loop, patterned carpet Pattern issues (elongation, bow, skew) Seam#cutting methods
Week 14	Topic: Hand Fitting Rotogravure Vinyl
	Layout and balancing Inside/outside corner relief cuts Net fitting Fitting around casings, pipes, toilets, tubs
Week 15	Topic: Double#Glue Carpet Installation
	Substrate prep Cushion layout Adhesive application Seam tape anchoring Hot#melt seams
Week 16	Topic: Capstone Review & Practical Assessment
	Hands#on installation demonstration Substrate evaluation Tool proficiency Final review

The Course Schedule is subject to change due to pedagogical needs, instructor discretion, parts of term, and unexpected events.

Required/Recommended Readings

Instructor-provided materials

Resources for the Instructor

Carpenters International Training Fund. *Southwest Carpenters Training Fund Floor Workers/Layers* . part 1. 2021.

Tarkett North America. *Tarkett Installation Instructions Heterogeneous Sheet Flooring* . Tarkett USA Inc, 2023. https://www.tarkettexchange.com/m/247acc37cc77b82b/original/ID_EN_HETEROGENEOUS_SHEET.pdf

Tarkett North America. *Tarkett Installation & Floor Preparation Instructions Powerbond® Cushion RS*. 2024. https://www.tarkettexchange.com/m/5ebf811906c32ceb/ID_EN_Tarkett_Powerbond_Cush_RS.pdf

Tarkett North America, *Tarkett Installation & Floor Preparation Instructions Crossweave® & CrossCushion*. 2019. <https://www.tarkettexchange.com/m/7740e3f6d568f43d/original/Microsoft-Word-Tarkett-Crossweave-Cross-Cushion-Installation-Floor-Prep-Instructions-pdf-doc.pdf>

The Carpet and Rug Institute, Inc. Standard for Installation of Commercial Carpet . CRI 104 . 2019.

Ardex SDP guide specification . May 2023.

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