

ATCT-1810: MATH FOR THE TRADES

Cuyahoga Community College

Viewing: ATCT-1810 : Math for the Trades

Academic Term:

Fall 2026

Subject Code

ATCT - Appld Indus Tech - Carpentry

Course Number:

1810

Title:

Math for the Trades

Catalog Description:

Introduction to the math techniques used in the construction field. Math subjects that are covered include: addition, subtraction, multiplication, and division, adding and subtracting fractions and measurements, area, volume, estimation, percentages, decimals, and calculating load weights.

Credit Hour(s):

2

Lecture Hour(s):

2

Outcomes**Course Outcome(s):**

A. Understand how to do the following math subjects that will be used throughout the apprenticeship

Objective(s):

1. Addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals.
2. The basics of using a Construction Master Pro calculator.
3. Rounding decimals.
4. Using the architect's scale and how to scale drawings.
5. The basics of the metric scale.
6. How to calculate area and volume.
7. Calculating load weights.
8. Percentages
9. Ratios
10. Material estimations

Methods of Evaluation:

1. Homework
2. Practice Tests
3. Participation
4. Exams

Course Content Outline:

1. Materials
 - a. Pencil and paper
 - b. Construction Masterpro calculator
 - c. Tape measure
 - d. Speed square
2. Assessment (practice test)

3. Whole numbers
 - a. Addition, subtraction, multiplication, and division
4. Fractions
 - a. Chapter 2 in Math for the Trades book
 - b. PowerPoint from chapter 2
 - c. Review questions from chapter 2
 - d. Worksheets for fractions and mixed numbers
 - e. Addition, subtraction, multiplication, and division of fractions
 - f. Fractions and ratios
 - g. Using the calculator for addition and subtraction of fractions and converting
5. Decimals
 - a. Chapter 3 in Math for the Trades book
 - b. PowerPoint from chapter 3
 - c. Review questions from chapter 3
 - d. Rounding, converting from fractions, and percentages
 - e. Reading a grading rod with decimal feet
6. Measurements
 - a. Chapter 4 in Math for the Trades book
 - b. PowerPoint from chapter 4
 - c. Review questions from chapter 4
 - d. Metric scale
 - e. Tape measure, speed square, and framing square
 - f. Page 210 in workbook
7. Layout
 - a. Layout PowerPoint and projects
 - b. Chapter review on page 242
 - c. Lay out parallel lines, perpendicular lines, circles, triangles, and angles
8. Area
 - a. Finding areas and formulas PowerPoint
 - b. Area measurement PowerPoint
 - c. Self-check pg 292
 - d. Shop exercises: measuring floors, classrooms, etc.
 - e. Surface area Self-check pg 305
 - f. Estimations for drywall, floor tile, ceiling tile, etc.
9. Volume
 - a. Volume PowerPoint
 - b. Self-check 1,2,3,4,5,6,7
 - c. Find volume of objects like classrooms and spheres
10. Estimating weight
 - a. Table on page 344
 - b. Figuring weights of objects made of different materials
11. Final Test

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/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	Course Introduction & Basic Tools
Week 2	Whole Numbers Mastery
Week 3	Introduction to Fractions
Week 4	Fraction Operations
Week 5	Fractions, Ratios & Calculator Use
Week 6	Decimals – Foundations
Week 7	Decimals in the Field
Week 8	Measurements – Tools & Systems
Week 9	Measurement Applications
Week 10	Layout Fundamentals
Week 11	Layout Applications
Week 12	Area Calculations
Week 13	Surface Area & Estimation
Week 14	Volume Calculations
Week 15	Estimating Weight & Course Review
Week 16	Finals Week

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

Carpenter's International Training Fund. *Rigging*. Las Vegas, NV: Carpenter's International Training Fund, 2023.

Carpenters International Training Fund. *Math for the Trades*. Las Vegas, NV: Carpenters International Training Fund, 2010.

Carpenters International Training Fund. *Roof Framing*. , 2017.. Las Vegas, NV: Carpenters International Training Fund, 2017.

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