

# CMT 101 - MATHEMATICS FOR TRADES

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- Adopt ongoing learning habits, such as using reference materials, digital tools, and collaborative problem solving, to continue improving trade math skills beyond the course.

## Course Description

This in-person course develops the applied mathematics skills required in the construction trades and related technical fields. Through a combination of lecture, demonstrations, and hands-on practice, students apply algebra, geometry, and trigonometry to real construction scenarios. Course activities include measuring and layout exercises, blueprint interpretation, material and cost calculations, and problem solving using industry tools and methods. Emphasis is placed on building practical competence and confidence by connecting mathematical concepts directly to field-based tasks and project work. Group 2 course.

## Credit Hours

3

## Contact Hours

3

## Lecture Hours

3

## Course Learning Outcomes

### Knowledge:

- Apply fundamental mathematical concepts, including ratios, proportions, algebra, geometry, and trigonometry, to solve construction-related problems and layout tasks.

### Application:

- Apply algebraic, geometric, and trigonometric methods to solve construction-related problems, layout tasks, and measurement challenges.
- Interpret and measure blueprints accurately, completing scale conversions and quantity takeoffs.
- Calculate dimensions, areas, and volumes for field-based activities using virtual and physical tools.
- Estimate material quantities and project costs by evaluating real-world variables and constraints.

### Integration:

- Connect mathematical principles to construction practices by linking calculations to blueprint reading, material planning, and job-site decision making.

### Human Dimension:

- Collaborate effectively in teams to solve trade math problems, communicate reasoning, and meet budget and time constraints.

### Caring - Civic Learning:

- Develop an appreciation for the role of accurate calculations, responsible material use, and cost awareness in supporting safety, efficiency, and sustainability in the construction industry.

### Learning How to Learn:

- Demonstrate improved math confidence and reduced anxiety by using scaffolded strategies, practice routines, and self-assessment tools.