COURSE OUTLINE

MTH0106

Prepared: Mathematics Department   Approved: Sherri Smith

Course Code: Title	MTH0106: TRADES MATHEMATICS
Program Number: Name	1120: COMMUNITY INTEGRATN
Department:	C.I.C.E.
Semester/Term:	17F
Course Description:	This course for Construction Techniques program begins with a review of fundamental concepts including arithmetic operations. Some theoretical concepts and topics in proportion and variation, measurement, geometry, and trigonometry will be covered. These concepts and topics will be reinforced by the use of practical problems to make the current topic relevant to the students needs. Aspects of business math pertaining to the construction field will be introduced.
Total Credits:	3
Hours/Week:	3
Total Hours:	45
Essential Employability Skills (EES):	#3. Execute mathematical operations accurately. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #10. Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 50%, D
Evaluation Process and Grading System:	
Books and Required Resources:	Mathematics for the Trades - A Guided Approach with MyMathLab by Hal Saunders and Robert A. Carman Publisher: Prentice Hall Edition: 9 ISBN: 9780321937988
Course Outcomes and Learning Objectives:	Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will acquire varying levels of skill development relevant to the following learning

Evaluation Type	Evaluation Weight
Assignments	30%
Tests and Quizzes	70%

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outcomes:

Course Outcome 1.

Solve arithmetic problems of whole numbers, fractions and decimals without the use of a calculator as they apply to the trades.

Learning Objectives 1.

- Perform addition, subtraction, multiplication and division of whole numbers without the use of a calculator.
- Recite and be able to create the multiplication times table without the use of a calculator.
- Perform arithmetic using order of operations.
- Perform addition, subtraction, multiplication and division of fractions.
- Perform addition, subtractions, multiplication and division of decimal numbers.

Course Outcome 2.

Create ratios, proportions and percentages and solve problems using a calculator as they apply to the trades.

Learning Objectives 2.

- Create ratios and proportions.
- Perform special applications of ratios and proportions.
- Solve trades related problems using ratios and proportions.
- Create percentages.
- Solve trades related problems using percentages.

Course Outcome 3.

Use ratios and conversion rates to do measurements and measurement conversions on trade related problems.

Learning Objectives 3.

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- Apply ratios and conversion rates as they relate to conversions.
- Work with various units of measurement such as Imperial/ English/British, US customary, and the SI metric units.
- Solve practical measurement conversion problems between various units of measure.

Course Outcome 4.

Solve for unknowns and algebraic equations.

Learning Objectives 4.

- Perform arithmetic on signed numbers.
- Work with exponents and square roots.
- Add and subtract algebraic expressions.
- Multiply and divide algebraic expressions.
- Use scientific notation.
- Solve word problems and algebraic expressions.

Course Outcome 5.

Solve practical trade problems related to area, perimeter, volumes of various geometric shapes, and solids.

Learning Objectives 5.

- Determine area, perimeter and volume of various geometric shapes and solids.
- Perform angle measurement.
- Work with polygons, triangles, hexagons, irregular polygon, circles, prisms, pyramids, cylinders, spheres, and cones.
- Work with angles and triangles.

Course Outcome 6.

Use trigonometry to solve practical trade-related problems.

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Learning Objectives 6.

- Use trigonometric ratios to solve trade related problems.
- Solve right triangles.
- Work with oblique triangles.

Course Outcome 7.

Create graphs and perform other related statistical information as they relate to the trades industry.

Learning Objectives 7.

- Read and create graphs.
- Use statistical tools, techniques and methods to perform data analysis.

CICE Modifications:

Preparation and Participation

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

A. Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

B. Tests may be modified in the following ways:

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual

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clues.

4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

C. Tests will be written in CICE office with assistance from a Learning Specialist.

The Learning Specialist may:

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

D. Assignments may be modified in the following ways:

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

The Learning Specialist may:

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

E. Evaluation:

Is reflective of modified learning outcomes.

NOTE: Due to the possibility of documented medical issues, CICE students may require alternate methods of evaluation to be able to acquire and demonstrate the modified learning outcomes

Date: Wednesday, September 6, 2017

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Please refer to the course outline addendum on the Learning Management System for further information.