Wisconsin Indianhead Technical College

32804383 Math 383

Course Outcome Summary

Course Information

Description This course is a continuation of Math 373. A more thorough coverage of solving equations and rearranging formulas with special applications to formulas used in the mechanical technician programs. Other topics include a study of solid geometry and direct and inverse proportions for work with hydraulics and transmission studies. The course is team-taught with the core instructor and direct application of math skills taught will be assessed in the math class and during time spent with the core instructor.

Instructional Level Two-Year Technical Diploma

Total Credits 2.00

Total Hours 48.00

Types of Instruction

Instruction Type	Credits/Hours
Classroom Presentation (Lecture/Demonstration/Discussion)	2/48

Course History

Revised By Andrea Schullo (andrea.schullo)

Pre/Corequisites

Prerequisite 32804373 Math 373

Course Competencies

1. Solve linear equations

Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

1.1. individually and in group work
1.2. in periodic written quizzes and a comprehensive written test
1.3. using appropriate tools for learning such as the calculator, computer, manuals, texts, and other library and community resources

Criteria

Criteria - Performance will be satisfactory when:

1.1. learner translates phrases into algebraic expressions
1.2. learner solves linear equations in one variable

Learning Objectives

1.a. Solve linear equations in one variable
1.b. Translate a phrase into an algebraic expression
1.c. Solve applications by writing and solving the appropriate equation

2. Rearrange formulas

Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

2.1. individually and in group work
2.2. in periodic written quizzes and a comprehensive written test
2.3. using appropriate tools for learning such as the calculator, computer, manuals, texts, and other library and community resources

Criteria

Criteria - Performance will be satisfactory when:

2.1. learner solves a formula for a given variable
2.2. learner uses formulas to solve applications related to electricity and electronics
2.3. learner uses formulas to solve applications related to hydraulics
2.4. learner uses formulas to solve applications related to transmissions

Learning Objectives

2.a. Rearrange a formula to solve for any variable
2.b. Use formulas to solve electricity and electronics applications
2.c. Use formulas to solve hydraulics applications
2.d. Use formulas to solve transmission applications

3. Solve problems involving proportion

Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

3.1. individually and in group work
3.2. in periodic written quizzes and a comprehensive written test
3.3. using appropriate tools for learning such as the calculator, computer, manuals, texts, and other library and community resources

Criteria

Criteria - Performance will be satisfactory when:

3.1. learner solves proportions
3.2. learner solves application problems using direct proportions
3.3. learner solves application problems using indirect proportions

Learning Objectives

3.a. Identify the type of proportion that fits a verbal problem
3.b. Write an equation for a direct proportion
3.c. Solve direct proportion problems
3.d. Write an equation for an indirect (inverse) proportion
3.e. Solve indirect (inverse) proportion problems
3.f. Solve problems involving hydraulics applications
3.g. Solve problems involving transmission systems applications
3.h. Solve problems involving gear ratios applications

4. Solve problems involving principles of plane geometry

Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

4.1. individually and in group work
4.2. in periodic written quizzes and a comprehensive written test

4.3. using appropriate tools for learning such as the calculator, computer, manuals, texts, and other library and community resources

Criteria

Criteria - Performance will be satisfactory when:

4.1. learner finds the missing angle of a polygon
4.2. learner finds the missing side of a polygon
4.3. learner finds the circumference of a circle or perimeter of a polygon
4.4. learner finds the area of a circle and polygon
4.5. learner solves application problems using the principles of plane geometry

Learning Objectives

4.a. Calculate the measure of interior angles of polygons
4.b. Calculate the circumference, perimeter, and area of simple and composite plane figures
4.c. Calculate lengths of sides of similar polygons
4.d. Apply mathematics skills to related technical problems

5. Solve problems involving principles of solid geometry

Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

5.1. individually and in group work
5.2. in periodic written quizzes and a comprehensive written test
5.3. using appropriate tools for learning such as the calculator, computer, manuals, texts, and other library and community resources

Criteria

Criteria - Performance will be satisfactory when:

5.1. learner finds the surface area of geometric solids
5.2. learner finds the volume of geometric solids
5.3. learner solves application problems using the principles of solid geometry

Learning Objectives

5.a. Calculate the surface area of geometric solids
5.b. Calculate the volume of geometric solids
5.c. Apply mathematics skills to related technical problems