WISCONSIN
INDIANHEAD
TECHNICAL
COLLEGE

WITC

Wisconsin Indianhead Technical College

32804373 Math 373

Course Outcome Summary

Course Information

Description	This course covers practical applications of whole numbers, fractions, decimals, percent, proportion, and formula evaluation. The course also includes measurement, U.S. and metric systems of measurement, and basic geometry.
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   Erin Winesburg (15237468)

Course Competencies

1.   Calculate arithmetic operations using whole numbers
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 adds whole numbers
1.2.   learner subtracts whole numbers
1.3.   learner multiples whole numbers
1.4.   learner divides whole numbers
1.5.   learner writes answer in the specified form

Learning Objectives

1.a.   Round off answers to a specified place
1.b.   Define place value for whole numbers
1.c.   Add whole numbers
1.d.   Subtract whole numbers
1.e.   Multiply whole numbers
1.f.   Divide whole numbers
1.g.   Solve arithmetic expressions involving multiple operations using algebraic priorities
1.h.   Solve applications involving whole numbers

2.   Calculate arithmetic operations using fractions
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 adds fractions
2.2.   learner subtracts fractions
2.3.   learner multiplies fractions
2.4.   learner divides fractions
2.5.   learner writes answers in reduced form

Learning Objectives
2.a.   Reduce fractions to lowest terms
2.b.   Convert between improper fractions and mixed numbers
2.c.   Add fractions and mixed numbers
2.d.   Subtract fractions and mixed numbers
2.e.   Multiply fractions and mixed numbers
2.f.   Divide fractions and mixed numbers
2.g.   Solve fractional expressions involving multiple operations using algebraic priorities
2.h.   Solve applications involving fractions

3.   Calculate arithmetic operations using decimals
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 adds decimals
3.2.   learner subtracts decimals
3.3.   learner multiplies decimals
3.4.   learner divides decimals
3.5.   learner writes answers to the specified place value

Learning Objectives
3.a.   Define place value for decimals
3.b.   Add decimals
3.c.   Subtract decimals
3.d.   Multiply decimals
3.e.   Divide decimals
3.f.   Convert between fraction and decimal
3.g.   Round off decimal answers to a specific place

3.h.   Solve arithmetic expressions involving multiple operations using algebraic priorities

3.i.   Solve applications involving decimal numbers

4.   Solve proportions
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 writes an appropriate proportion to solve a problem

4.2.   learner solves proportions using algebraic steps

4.3.   learner solves proportions using cross multiplication

Learning Objectives

4.a.   Define ratio and proportion

4.b.   Solve proportions using cross multiplication

4.c.   Solve applications involving ratio and proportion

5.   Solve commonly occurring percentage problems
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 converts between fraction, decimal, and percent

Learning Objectives

5.a.   Convert between fraction, decimal, and percent

5.b.   Solve applications for rate, base, or percentage

6.   Convert within and between the English and metric systems
Domain   *Cognitive*   *Level*   *Applying*   *Status*   *Active*

Assessment Strategies

6.1.   individually and in group work

6.2.   in periodic written quizzes and a comprehensive written test

6.3.   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:

6.1.   learner converts between English units

6.2.   learner converts between metric units

6.3.   learner converts between English and metric units

6.4.   learner converts units in applied situations

Learning Objectives

6.a.   Perform arithmetic operations on compound numbers

6.b.   Convert units within the English system of length, surface area, volume, capacity, and weight

6.c.   Convert units within the metric system of length, surface area, volume, capacity, and weight

6.d.   Convert between the English system of units and the metric system

  6.e. Solve applications involving unit conversion

7. **Solve first degree algebraic equations**
  Domain *Cognitive* *Level* *Applying* *Status* *Active*

  Assessment Strategies
  7.1. individually and in group work
  7.2. in periodic written quizzes and a comprehensive written test
  7.3. 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:
  7.1. learner solves equations using properties of equations
  7.2. learner solves application problems

  Learning Objectives
  7.a. Solve equations using the subtraction principle of equality
  7.b. Solve equations using the addition principle of equality
  7.c. Solve equations using the division principle of equality
  7.d. Solve equations using the multiplication principle of equality
  7.e. Solve applications using equations

8. **Demonstrate the ability to use formulas**
  Domain *Cognitive* *Level* *Applying* *Status* *Active*

  Assessment Strategies
  8.1. individually and in group work
  8.2. in periodic written quizzes and a comprehensive written test
  8.3. 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:
  8.1. learner evaluates formulas for given values
  8.2. learner applies formulas to geometry applications
  8.3. learner solves application problems using formulas

  Learning Objectives
  8.a. Evaluate formulas by substitution
  8.b. Calculate perimeter, area, and volumes of various geometric shapes using formulas
  8.c. Solve applications using formulas

Course Learning Plans and Performance Assessment Tasks

Type	Title	Source	Status
PAT	Whole numbers	Course	Active
PAT	Fractions	Course	Active
PAT	Decimals	Course	Active
PAT	Proportions and Percent	Course	Active
PAT	Bar and Line Graphs	Course	Active
PAT	Conversion of Units	Course	Active
PAT	Solve algebraic equations.	Course	Active
PAT	Formula Rearrangement	Course	Active