Wisconsin Indianhead Technical College

10804123 Math with Business Applications

Course Outcome Summary

Course Information

Description	This course integrates algebraic concepts, proportions, percents, simple interest, compound interest, annuities, and basic statistics with business/consumer scenarios. It also applies math concepts to the purchasing/buying and selling processes.
Instructional Level	Associate Degree
Total Credits	3.00
Total Hours	48.00

Types of Instruction

Instruction Type	Credits/Hours
Presentation (Lecture/Demonstration/Discussion)	3/48

Course History

Revised By	Andrea Schullo (andrea.schullo)
Last Approval Date	11/5/2013

Target Population

Business Occupations and other associate degree students

Pre/Corequisites

Prerequisite Successful scores on placement test or 10834109 Pre-Algebra

Course Competencies

1. Solve scenarios using basic math computations
Domain *Cognitive* ***Level*** *Applying* ***Status*** *Active*

Assessment Strategies

1.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

1.1. you use real numbers and basic operations to solve business/consumer problems
1.2. you answer with the precision of terms appropriate to the problem
1.3. you answer in the correct units of measure and labels

Learning Objectives

1.a. Add fractions, decimals, and signed numbers
1.b. Subtract fractions, decimals, and signed numbers
1.c. Multiply fractions, decimals, and signed numbers
1.d. Divide fractions, decimals, and signed numbers
1.e. Apply rules for order of operation to simplify an expression
1.f. Use real numbers and basic operations to solve business/consumer problems

2. Solve scenarios using algebraic concepts

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

Assessment Strategies

2.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

2.1. you identify the unknown with the appropriate variable
2.2. you write the equation that relates the known information with the appropriate variable
2.3. you evaluate formulas for given value of the variables
2.4. you use algebra to solve business/consumer scenarios
2.5. you perform basic operations with signed numbers
2.6. you employ the order of operations to simplify an expression
2.7. you rearrange formulas to solve for a specific variable
2.8. you solve linear equations
2.9. you solve proportions
2.10. you answer with the precision of terms appropriate to the problem
2.11. you answer in the correct units of measure and labels

Learning Objectives

2.a. Identify the unknown with an appropriate variable
2.b. Write the equation that relates the known information with the appropriate variable
2.c. Simplify each side of the equation
2.d. Isolate the variable
2.e. Solve business/consumer problems involving linear equations and proportions with one variable
2.f. Evaluate formulas for given values of the variables

3. Solve percentage scenarios

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

Assessment Strategies

3.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

3.1. you convert between percents, decimals, fractions
3.2. you identify the base, rate and amount in problem
3.3. you compute the base, rate, or amount
3.4. you use percentages to solve business/consumer scenarios
3.5. you solve percent increase/decrease scenarios
3.6. you answer with the precision of terms appropriate to the problem
3.7. you answer in the correct units of measure and labels

Learning Objectives

3.a. Convert between percents, decimals, and fractions
3.b. Identify the base, rate, and amount in a problem

3.c. Solve for base, rate, or amount using the basic percent formula
3.d. Solve business/consumer problems involving percents

4. Solve simple interest scenarios

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

Assessment Strategies

4.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

4.1. you identify the characteristics of simple interest
4.2. you compute principal, rate, or time using simple interest formula
4.3. you determine due date of a promissory note
4.4. you compute maturity value, principal, rate, and time using maturity value formula
4.5. you determine present and future values
4.6. you use simple interest to solve business/consumer scenarios
4.7. you answer with the precision of terms appropriate to the problem
4.8. you answer in the correct units of measure and labels

Learning Objectives

4.a. Compute principal, rate, or time using the simple interest formula
4.b. Determine due date of a promissory note
4.c. Compute maturity value, principal, rate, and time using maturity value formula
4.d. Determine present and future value
4.e. Solve business/consumer problems involving simple interest

5. Solve compound interest scenarios

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

Assessment Strategies

5.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

5.1. you identify the characteristics of compound interest
5.2. you differentiate between simple and compound interest
5.3. you determine the number of periods
5.4. you determine the rate per period
5.5. you compute compound interest and compound amount
5.6. you determine present and future values
5.7. you use compound interest formulas to solve business/consumer scenarios
5.8. you determine the effective rate of interest
5.9. you answer with the precision of terms appropriate to the problem
5.10. you answer in the correct units of measure and labels

Learning Objectives

5.a. Differentiate between simple and compound interest
5.b. Determine the number of periods and rate per period
5.c. Compute compound interest and compound amount
5.d. Determine present and future value of a sum
5.e. Solve business/consumer problems involving compound interest

6. Solve annuity scenarios

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

Assessment Strategies

6.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

6.1. you identify the characteristics of an annuity
6.2. you differentiate between the present and future value of an annuity
6.3. you calculate the amount of a sinking fund payment.
6.4. you calculate the present and/or future values of an annuity
6.5. you apply annuity calculations to business/consumer scenarios
6.6. you answer with the precision of terms appropriate to the problem
6.7. you answer in the correct units of measure and labels

Learning Objectives

6.a. Differentiate between single payment and annuity
6.b. Compute the amount or payment of an annuity
6.c. Calculate the present and future value of an annuity
6.d. Distinguish the characteristics of a sinking fund and annuity
6.e. Calculate the amount of a sinking fund payment
6.f. Solve business/consumer problems involving annuities

7. Apply math concepts to the purchasing/buying process

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

Assessment Strategies

7.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

7.1. you calculate trade discounts
7.2. you calculate net cost
7.3. you differentiate between single and series discounts
7.4. you express a series discount as a single discount equivalent
7.5. you determine cash discount period
7.6. you compute a cash discount
7.7. you solve business/consumer scenarios involving the purchasing/buying process
7.8. you answer in the correct units of measure and labels
7.9. you answer with the precision of terms appropriate to the problem

Learning Objectives

7.a. Calculate trade discounts
7.b. Calculate net cost
7.c. Differentiate between single and series discounts
7.d. Express a series discount as a single discount equivalent
7.e. Determine cash discount period
7.f. Compute a cash discount
7.g. Calculate credit given for partial payment of an invoice
7.h. Solve business/consumer problems involving the purchasing/buying process

8. Apply math concepts to the selling process

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

Assessment Strategies

8.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

8.1. you distinguish between markup based on cost and markup based on selling price
8.2. you compute selling price, cost or markup based on cost
8.3. you compute selling price, cost or markup based on selling price
8.4. you compute sale price, markdown, or original price
8.5. you solve business/consumer scenarios involving the selling process
8.6. you answer in the correct units of measure and labels
8.7. you answer with the precision of terms appropriate to the problem

Learning Objectives

8.a. Distinguish between markup based on cost and markup based on selling price
8.b. Compute selling price, cost, or markup based on cost
8.c. Compute selling price, cost, or markup based on selling price
8.d. Compute sale price, markdown, or original price
8.e. Solve business/consumer problems involving the selling process

9. Interpret basic statistics

Domain *Cognitive* ***Level*** *Analyzing* ***Status*** *Active*

Assessment Strategies

9.1. math assessment with consumer/business applications

Criteria

Your performance will be successful when:

9.1. you interpret charted data
9.2. you construct charts/graphs
9.3. you determine the appropriate chart given the raw data
9.4. you calculate measures of central tendencies
9.5. you interpret measures of dispersion
9.6. you determine the probability of an event involving normally distributed data
9.7. you use statistics to solve business/consumer scenarios
9.8. you answer with the precision of terms appropriate to the problem
9.9. you answer in the correct units of measure and labels

Learning Objectives

9.a. Interpret bar, line, and circle graphs
9.b. Organize data in a frequency distribution
9.c. Determine the appropriate chart given the raw data
9.d. Construct bar, line, and circle graphs
9.e. Calculate mean, median, mode
9.f. Interpret range and standard deviation
9.g. Determine probability of an event involving normally distributed data
9.h. Solve business/consumer problems involving basic statistics