



**COWLEY COLLEGE
& Area Vocational Technical School**

COURSE PROCEDURE FOR

**BUSINESS MATHEMATICS
BUS1330 3 Credit Hours**

Student Level:

This course is open to students on the college level in either the freshman or sophomore year.

Catalog Description:

BUS1330 - BUSINESS MATHEMATICS (3 hrs)

This course deals with the type of mathematics used in business transactions, including managerial, secretarial, and clerical positions. Among the lessons included will be work with decimals, fractions, percentages, calculations of discounts, interest, etc.

Prerequisites:

None

Controlling Purpose:

The purpose of Business Mathematics is to provide students with basic business calculation principles necessary to enter and progress in positions in business. Skills are applicable to computations, reasoning, and problem solving actually used on the job and in their personal lives.

Learner Outcomes:

Business mathematics skills will be developed and improved so that the student can perform with accuracy the necessary calculations required by business and in their personal lives.

Units Outcomes and Criterion Based Evaluation Key for Core Content:

The following defines the minimum core content not including the final examination period. Instructors may add other content as time allows.

Evaluation Key:

- A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.
- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for

taking more advanced work in the same field, but without any major handicap of inadequacy in his background.

- D = A few of the major goals have been achieved, but the student's achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

UNIT: Whole Numbers; How to Dissect and Solve Word Problems

Outcomes: Upon completion of this unit, students will understand the fundamentals of math and be able to estimate appropriate answers.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Review fundamentals of math.
						Demonstrate proficiency in addition, subtraction, multiplication, and division of whole numbers and decimals without the calculator.
						Apply mathematics for solving word problems.
						Estimate appropriate answers.

UNIT: Fractions

Outcomes: Upon completion of this unit, students will understand fractions, decimals, and conversion procedures.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Recognize types of fractions. Convert mixed numbers to improper fractions. Convert fractions to mixed numbers. Find least common denominators for fractions.
						Demonstrate proficiency in addition, subtraction, multiplication, and division of fractions and mixed numbers.

UNIT: Decimals

Outcomes: Upon completion of this unit, the students will understand rounding decimals, conversions of fraction and decimals, add, subtract, multiply and divide decimals. Students will be able to use decimal applications in foreign currency.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Explain the place values of whole numbers and decimals.
						Round decimals
						Convert decimal fractions to decimals.
						Convert proper fractions to decimals.
						Convert mixed numbers to decimals and pure and mixed decimals to decimal fractions.
						Add, subtract, multiply, and divide decimals.
						Complete decimal applications in foreign currency.
						Multiply and divide decimals by shortcut methods.

UNIT: Banking

Outcomes: Upon completion of this unit, the students will understand the checking account, bank statement and reconciliation process.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Understand the different types of check endorsements.
						Correctly prepare deposit slips, check stubs, and write checks.
						Correctly complete a check register.
						Calculate monthly service charges.
						Reconcile a bank statement with a checkbook.
						Explain the trends in online banking.
						Interpret, analyze, and solve word problems related to checkbook and bank statement balances..

UNIT: Solving for the Unknown: A How-to Approach for Solving Equations

Outcomes: Upon completion of this unit, the students will understand the basic procedures used to solve equations and work problems for the unknown.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Solve equations for the unknown using the mechanical steps.
						Solve word problems using the blueprint aid and mechanical steps to solve for the unknown.

UNIT: Percents and Their Applications

Outcomes: Upon completion of this unit, the students will fully understand conversions of percents, decimals, and fractions, including rounding percents. Students will be able to calculate the rate of percent decreases and increases.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Convert decimals to percents (including rounding percents) and percents to decimals.
						Convert fractions to percents and percents to fractions.
						List and define the key elements of the portion formula.
						Solve for one unknown of the portion formula when the other two key elements are given.
						Calculate the rate of percent decreases and increases.

UNIT: Discounts: Trade and Cash

Outcomes: Upon completion of this unit, the students will understand the difference between trade discount and cash discount.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Calculate single trade discounts with formulas and complements.
						Explain the freight terms FOB shipping point and FOB destination.
						Find list price when net price and trade discount rate are known.
						Calculate chain discounts with the net price equivalent rate and single equivalent discount rate.
						List and explain typical discount periods and credit periods that a business may offer.
						Calculate outstanding balance for partial payments.
						Calculate turnover of inventory.
						Interpret, analyze, and solve word problems related to business situations.

UNIT: Markups and Markdowns

Outcomes: Upon completion of this unit, the students will be able to understand markup based on cost and selling price as well as markdowns.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Calculate dollar markup and percent markup on cost.
						Calculate selling price when you know the cost and percent markup on cost.
						Calculate cost when dollar markup and percent markup on cost are known.
						Calculate cost when you know the selling price and percent markup on cost.
						Calculate dollar markup and percent markup on selling price.
						Calculate selling price when dollar markup and percent markup on selling price are known.
						Calculate selling price when cost and percent markup on selling price are known.
						Calculate cost when selling price and percent markup on selling price are known.
						Convert from percent markup on cost to percent markup on selling price and vice versa.
						Calculate markdowns; compare markdown and markups.

UNIT: Payroll

Outcomes: Upon completion of this unit, the students will be able to calculate various types of employees' gross pay and compute the payroll deductions for the employees' pay and employers' responsibilities.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Define, compare, and contract weekly, biweekly, semimonthly, and monthly pay periods.
						Calculate gross pay with overtime based on time.
						Calculate gross pay for piecework, differential pay schedule, straight commission with draw, variable commission scale, and salary plus commission.
						Prepare and explain the parts of a payroll register.
						Explain and calculate federal and state unemployment taxes.

UNIT: Simple Interest

Outcomes: Upon completion of this unit, the students will be able to calculate simple interest and maturity value and understand the U.S. Rule – making partial note payments before due date.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Calculate simple interest and maturity value for months and years.
						Calculate simple interest and maturity value by (a) exact interest and (b) ordinary interest.
						Use the interest formula; calculate the unknown when the other (principal, rate, or time) is given.
						List the steps to complete the U.S. Rule.
						Complete the proper interest credits under the U.S. Rule.

UNIT: Promissory Notes, Simple Discount Notes, and the Discount Process

Outcomes: Upon completion of this unit, the students will understand the structure of promissory notes; the simple discount note, and how to discount an interest-bearing note before maturity.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Differentiate between interest-bearing and noninterest-bearing notes
						Calculate bank discount and proceeds for simple discount notes.
						Calculate and compare the interest, maturity value, proceeds, and effective rate of simple interest note with a simple discount note.
						Explain and calculate the effective rate for a Treasury bill.
						Calculate the maturity value, bank discount, and proceeds of discounting an interest-bearing note before maturity.
						Identify and complete the four steps of the discounting process.

UNIT: Compound Interest and Present Value

Outcomes: Upon completion of this unit, the students will have an understanding of compound interest for future value and the present value.

A	B	C	D	F	N	Specific Competencies
						Demonstrate the ability to:
						Compare simple interest with compound interest.
						Calculate the compound amount and interest manually and by table lookup.
						Explain and compute the effective rate (APY).
						Compare present value (PV) with compound interest(FV).
						Compute present value by table lookup.
						Check the present value answer by compounding.

Projects Required:

As assigned.

Textbook:

Contact Bookstore for current textbook.

Materials/Equipment Required:

Calculators

Attendance Policy:

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

Grading Policy:

The grading policy will be outlined by the instructor in the course syllabus.

Maximum class size:

Based on classroom occupancy

Course Timeframe:

The U.S. Department of Education, Higher Learning Commission, and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching, and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

Refer to the following policies:

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

Disability Services Program:

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability which may impact work in this class which requires accommodations, contact the Disability Services Coordinator.