CENTRAL TEXAS COLLEGE
SYLLABUS FOR POFT 1325
BUSINESS MATH USING TECHNOLOGY

Semester Hours Credit: 3

INSTRUCTOR: ____________________

OFFICE HOURS: ____________________

I. INTRODUCTION

A. Skill development in business math problem-solving using electronic technology.

B. This is a required course in the Executive Assistant degree and certificates, the Office Management degree and certificates, and the Office Information Management, and Medical Office Specialist certificates.

This course in conjunction with other appropriate courses prepares students to enter the secretarial, office administration, word processing, office management, or health information management career fields.

C. This three-semester hour course is designed to give students familiarization in the operation of the most commonly used office machines and practice in computation of business math skills to enhance productivity in most office settings.

D. Prerequisite: None

E. Alphanumeric coding used throughout this syllabus denotes integration of SCANS occupational competencies (C1, etc.) and foundation skills (F1, etc.).

II. LEARNING OUTCOMES

Upon successful completion of this course the student will:
• Solve business math application problems using technology. (C2, C5, C6, F1, F2, F3, F4, F8, F12)

III. INSTRUCTIONAL MATERIAL

The instructional materials identified for this course are viewable through www.ctcd.edu/books

April 2019
IV. COURSE REQUIREMENTS

A. Reading Assignment:
The student reads chapters from the textbook as assigned by the
instructor. The student must read and understand the chapters in order
to orally participate in class discussion, answer oral questions by
instructor, and answer questions on pop quizzes, if given.

B. Student participation is mandatory. This may be accomplished by
attending class regularly, giving complete attention to class activities,
completing all assigned work, and preparing for exams.

C. End-of-chapter work, LearnSmart book completion in Connect software,
and satisfactory completion of chapter quizzes mandatory.

V. EXAMINATIONS

A. Chapter examinations will be given throughout the course.

B. There will be a midterm and final exam administered at appropriate times.

VI. SEMESTER GRADE COMPOSITION

At the end of the semester, each student will have completed nine exams
plus the final exam. The student's final grade will be calculated by deriving
the average of nine grades plus the final exam at the weight set by the
instructor. The semester grade will be determined by the grade bracket in
which the average score appears.

<table>
<thead>
<tr>
<th>POINTS</th>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
</tr>
<tr>
<td>80 - 89</td>
<td>B</td>
</tr>
<tr>
<td>70 - 79</td>
<td>C</td>
</tr>
<tr>
<td>60 - 69</td>
<td>D</td>
</tr>
<tr>
<td>0 - 60</td>
<td>F</td>
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</tbody>
</table>

VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM THE INSTRUCTOR

A. Withdrawal from course: It is the student's responsibility to officially
drop a class if circumstances prevent attendance. Any student who
desires to, or must, officially withdraw from a course after the first
scheduled class meeting must file an Application for Withdrawal or an
Application for Refund. The withdrawal form must be signed by the
student.
Application for Withdrawal will be accepted at any time prior to Friday of the 12th week of classes during the 16-week fall and spring semesters. The deadline for sessions of other lengths is as follows.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Length</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>week</td>
<td>Friday of the 8th</td>
</tr>
<tr>
<td>8</td>
<td>week</td>
<td>Friday of the 6th</td>
</tr>
<tr>
<td>5½</td>
<td>week</td>
<td>Friday of the 4th</td>
</tr>
</tbody>
</table>

The equivalent date (75% of the semester) will be used for sessions of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

Students who officially withdraw will be awarded the grade of "W", provided the student’s attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the college before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

B. **An Administrative Withdrawal:** An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on the Administrative Withdrawal Form for submission to the registrar.

Under Section 51.907 of the Texas Education Code, “an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education.” This statue was enacted by the State of Texas in spring 2007 and applies to students who enroll in a public institution of higher education as first-time freshmen in fall 2007 or later.

C. **Incomplete Grade:** In keeping with College policy, the instructor may grant an incomplete grade in cases in which the student has completed the majority of the course work, but because of extenuating circumstances, is unable to complete the requirements for the course. Prior approval from the instructor is required before the grade of “IP” is recorded. Deadline for changing the IP grade is 110 days after the scheduled end of the course. An IP grade can be replaced with the student’s actual grade, including an F; but it may not be replaced with a W. At the end of the 110 calendar days if the student has not completed the remaining coursework as required by the instructor, the “IP” will be converted to an “FI” and appear as an “F” on the student’s official transcript.
D. **Cellular Phones:** Cellular phones and beepers will be turned off while the student is in the classroom or laboratory.

E. **American’s with Disabilities Act (ADA)** provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the main campus. This service is available to all students, regardless of location. Explore the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

F. **Instructor Discretion:** The instructor reserves the right of final decision in course requirements.

G. **Civility:** Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment. Failure to do so can result in disciplinary action up to and including expulsion.

I. **COURSE OUTLINE**

A. **Lesson One:**

   Chapter 1: Whole Numbers: How to Dissect and Solve Word Problems
   Chapter 2: Fractions

   1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy on a unit assessment:

      a) Use place values to read and write numeric and verbal whole numbers
      b) Round whole numbers to the indicated position
      c) Use blueprint aid for dissecting and solving a word problem. Add whole numbers; check and estimate addition computations
      d) Subtract whole numbers; check and estimate subtraction computations
      e) Multiply whole numbers; check and estimate multiplication computations
      f) Divide whole numbers; check and estimate division computations
      g) Recognize the three types of fractions
      h) Convert improper fractions to whole or mixed numbers and mixed numbers to improper fractions
      i) Convert fractions to lowest and highest terms
      j) Add like and unlike fractions
      k) Find the least common denominator by inspection and prime
1) Subtract like and unlike fractions
m) Add and subtract mixed numbers with the same or different denominators
n) Multiply and divide proper fractions and mixed numbers
o) Use the cancellation method in the multiplication and division of fractions

2. **Learning Activities:**
   a) Classroom lecture, LearnSmart Connect software (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

3. **Equipment and Materials:**
   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

4. **Unit Outline:**
   Follow the outline of learning activities as presented in Chapters 1 and 2

B. **Lesson Two:**
   Chapter 3: Decimals

1. **Learning Outcomes:** Upon completion of this unit, the student will apply knowledge of basic math functions to reconcile bank accounts with at least 70% accuracy by calculating bank reconciliations.

   a) Explain the place values of whole numbers and decimals; round decimals
   b) Convert decimal fractions to decimals, proper fractions to decimals, mixed numbers to decimals, and pure and mixed decimals to decimal fractions
   c) Add, subtract, multiply, and divide decimals
   d) Complete decimal applications in foreign currency
   e) Multiply and divide decimals by shortcut methods

2. **Learning Activities:**
   a) Classroom lecture, LearnSmart Connect software (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8,
3. **Equipment and Materials:**
   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

4. **Unit Outline:**
   Follow the outline of learning activities as presented in Chapter 3

C. **Lesson Three:**
   Chapter 4: Banking

1. **Learning Outcomes:** Upon completion of this unit, the student will use formulas to solve for the unknown, including equations that involve applications for real-life with at least 70% accuracy by calculating real-world situations using formulas on a unit assessment:
   a) Define and state the purpose of signature cards, checks, deposit slips, check stubs, check registers and endorsements
   b) Correctly prepare deposit slips and write checks
   c) Explain trends in the banking industry
   d) Define and state the purpose of the bank statement
   e) Complete a check register and a bank reconciliation
   f) Explain the trends in online banking pro and con

2. **Learning Activities:**
   a) Classroom lecture, LearnSmart Connect software (C5, C6, C7, C15) (F3, F4, F8, F9, F11)
   b) Complete Quizzes (C5, C6, C7, C15) (F3, F4, F8, F9, F11)
   c) Complete End-of-Chapter Problems. (C5, C6, C7, C15) (F3, F4, F8, F9, F11)

5. **Equipment and Materials:**
   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

6. **Unit Outline:**
   Follow the outline of learning activities as presented in Chapter 4

D. **Lesson Four:**
   Chapter 5 – Solving for the Unknown: A How-To Approach to Solving for the Unknown
Chapter 6 – Percents and Their Applications

1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy on a unit assessment:

   a) Explain the basic procedures used to solve equations for the unknown
   b) List the five rules and the mechanical steps used to solve for the unknown in seven situations; know how to check the answers
   c) List the steps for solving word problems
   d) Complete blueprint aids to solve word problems; check the solutions
   e) Convert decimals to percents (including rounding percents), percents to decimals, and fractions to percents
   f) Convert percents to fractions
   g) List and define the key elements of the portion formula
   h) Solve for one unknown of the portion formula when the other two key elements are given
   i) Calculate the rate of percent increases and decreases

2. **Learning Activities:**

   a) Classroom lecture, LearnSmart Connect software (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

7. **Equipment and Materials:**

   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

8. **Unit Outline:**

   Follow the outline of learning activities as presented in Chapters 5 and 6

E. **Lesson Five:**

   Chapter 7 – Discounts: Trade and Cash
   Chapter 8 – Markups and Markdowns: Perishables and Breakeven Analysis

1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy through calculating business processes using formulas:

   a) Calculate single trade discounts with formulas and complements
b) Explain the freight terms *FOB shipping point* and *FOB destination*

c) Find list price when the net price and trade discount rate are known

d) Calculate chain discounts with the net price equivalent rate and single equivalent discount rate

e) List and explain typical discount periods and credit periods that a business may offer

f) Calculate outstanding balance for partial payments
g) Calculate dollar markup and percent markup on cost

h) Calculate selling price when you know the cost and percent markup on cost

i) Calculate cost when dollar markup and percent markup on cost are known

j) Calculate cost when you know the selling price and percent markup on cost

k) Calculate dollar markup and percent markup on selling price

l) Calculate selling price when dollar markup and percent markup on selling price are known

m) Calculate selling price when cost and percent markup on selling price are known

n) Calculate cost when selling price and percent markup on selling price are known

o) Convert from percent markup on cost to percent markup on selling price and vice versa

p) Calculate markdowns; compare markdowns and markups

q) Price perishable items to cover spoilage loss

r) Calculate contribution margin

s) Calculate breakeven point

2. **Learning Activities:**

   a) Classroom lecture, LearnSmart Connect software (C5,C6,C7,C15) (F3,F4,F8,F9,F11)

   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)

   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

9. **Equipment and Materials:**

   a) Computer with MS PowerPoint and a calculator

   b) McGraw-Hill Connect

10. **Unit Outline:**

    Follow the outline of learning activities as presented in Chapters 7
F. **Lesson Six:**
Chapter 9 – Payroll

1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy by completing employees’ payroll records:
   a) Define, compare, and contrast weekly, biweekly, semimonthly, and monthly pay periods
   b) Calculate gross pay with overtime on the basis of time
   c) Calculate gross pay for piecework, differential pay schedule, straight commission with draw, variable commission scale, and salary plus commission
   d) Prepare and explain the parts of a payroll register
   e) Explain and calculate federal and state unemployment taxes

2. **Learning Activities:**
   a) Classroom lecture, LearnSmart Connect software (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

11. **Equipment and Materials:**
   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

12. **Unit Outline:**
   Follow the outline of learning activities as presented in Chapter 9

G. **Lesson Seven:**
Chapter 10 – Simple Interest
Chapter 11 – Promissory Notes, Simple Discount Notes, and the Discount Process

1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy by calculating interest and comparing types of notes:
   a) Calculate simple interest and maturity value for months and years
   b) Calculate simple interest and maturity value by (a) exact interest and (b) ordinary interest
c) Using the interest formula, calculate the unknown when the other two (principal, rate, or time) are given
d) List the steps to complete the U.S. Rule
e) Complete the proper interest credits under the U.S. Rule
f) Differentiate between interest-bearing and noninterest-bearing notes
g) Calculate bank discount and proceeds for simple discount notes
h) Calculate and compare the interest, maturity value, proceeds, and effective rate of a simple interest note with a simple discount note
i) Explain and calculate the effective rate for a Treasury bill
j) Calculate the maturity value, bank discount, and proceeds of discounting an interest-bearing note before maturity
k) Identify and complete the four steps of the discounting process

2. **Learning Activities:**

   a) Classroom lecture, LearnSmart Connect software  
      (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   b) Complete Quizzes  (C5,C6,C7,C15) (F3,F4,F8,F9,F11)
   c) Complete End-of-Chapter Problems.  (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

13. **Equipment and Materials:**

   a) Computer with MS PowerPoint and a calculator
   b) McGraw-Hill Connect

14. **Unit Outline:**

   Follow the outline of learning activities as presented in Chapters 10 and 11

H. **Lesson Eight:**  
Chapter 12 – Compound Interest and Present Value

1. **Learning Outcomes:** Upon completion of this unit, the student will achieve the following outcomes with at least 70% accuracy by calculating interest and comparing types of interest on a unit assessment:

   a) Compare simple interest with compound interest
   b) Calculate the compound amount and interest manually and by table lookup
   c) Explain and compute the effective rate (APY)
   d) Compare present value (PV) with compound interest (FV)
   e) Compute present value by table lookup
   f) Check the present value answer by compounding
2. **Learning Activities:**

   a) Classroom lecture, LearnSmart Connect software  
      (C5,C6,C7,C15) (F3,F4,F8,F9,F11)  
   b) Complete Quizzes (C5,C6,C7,C15) (F3,F4,F8,F9,F11)  
   c) Complete End-of-Chapter Problems. (C5,C6,C7,C15) (F3,F4,F8, F9,F11)

15. **Equipment and Materials:**

   a) Computer with MS PowerPoint and a calculator  
   b) McGraw-Hill Connect

16. **Unit Outline:**

   Follow the outline of learning activities as presented in Chapters 4