



TYLER JUNIOR COLLEGE

School of Continuing Studies

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www.tjc.edu/continuingstudies/mycaa

Education & Training Plan Business Math Specialist Program

Student Full Name: _____

Start Date: _____ End Date: _____

Program Duration: 6 months

(due to open enrollment, start and end dates are determined by the student)

MyCAA Information

Course Code:	TJC-MET 28
Program Duration:	6 Months
Course Contact Hours:	375
Student Tuition:	\$3,999

The Business Math Specialist

Math skills are fundamental to sound business skills. The ability to analyze and interpret data is more and more valued in this data- and information-driven world. Interpreting data for business – no matter what sector it is – is imperative to making informed decisions. And with information and data so much more widely available than ever before, there's no excuse not to use this information to make sound business decisions every day. Algebra and statistics are fundamental skills individuals require for success regardless of the industry they enter, particularly in pursuing careers in Business or Computer Science.

The Business Math Specialist Program

This program applies math fundamentals to business applications. Topics include a basic math review, business statistics, profit calculations, payroll, banking, interest calculations, insurance, taxes, and other business topics. Upon completion of this program, students will have a fundamental understanding of how to solve mathematical problems as they pertain to various business transactions. Further, students will also analyze common business problems using mathematical equations and concepts as well as useful business statistics calculations.

Program Objectives

At the conclusion of this program, students will be able to:

- Solve mathematical problems using whole numbers, fractions, and decimals
- Reconcile bank statements
- Solve equations
- Analyze business problems using percentages and statistical concepts
- Apply mathematical concepts to business problems involving pricing and discounts

- Explain various payroll issues that affect employers and employees
- Apply mathematical concepts to business lending transactions
- Apply mathematical concepts to business transactions involving annuities and stocks and bonds
- Calculate various mortgage problems
- Apply various depreciation methods
- Apply mathematical concepts to business transactions involving inventory
- Calculate various insurance and tax transactions
- Analyze financial statements using mathematical concepts
- Use Microsoft Office

Math Professional Program Detailed Student Objectives:

WHOLE NUMBERS, FRACTIONS, AND DECIMALS

- Identify whole numbers
- Add, subtract, multiply, and divide whole numbers
- Identify types of fractions
- Add, subtract, multiply, and divide fractions
- Add, subtract, multiply, and divide decimals
- Convert decimals and fractions

BANKING AND EQUATIONS

- Reconcile bank statements
- Describe various banking transactions
- Write account transactions
- Explain the elements of an equation
- Solve equations using multiplication, division, addition, and subtraction
- Solve equations using multiple operations, containing multiple unknowns, parentheses, and proportions
- Use the problem-solving approach to analyze and solve word problems
- Explain how equations are used to solve mathematical problems

PERCENTAGES AND STATISTICS

- Write a whole numbers, fractions, or decimals as a percentage and the reverse
- Solve percentage problems by identifying the rate, base, and portion
- Use the percentage formula to identify the unknown
- Calculate the percentage increase, decrease, rates, or base in percentage problems
- Identify measures of central tendency
- Use mathematical equations to find the mean, median, and mode
- Explain the use of frequency distributions and graphs for reporting data sets
- Create and interpret a frequency distribution
- Create and interpret a bar, line, and circle graph
- Describe the statistical measures of dispersion
- Calculate range and standard deviation

TRADE AND CASH DISCOUNTS, MARKUP AND MARKDOWN

- Describe how discounts and net price are established
- Explain how manufacturers and distributors use trade discounts
- Explain various merchandising terms
- Explain how cost, markup, and selling price can be related
- Explain the reasons for markdowns
- Compute a markdown

PAYROLL

- Describe payroll issues that affect both the employer and the employee
- Calculate gross pay based upon salary, hourly, piecework, and commission

- Compute various tax withholdings and net pay
- Compute the employer's share of taxes

SIMPLE INTEREST AND SIMPLE DISCOUNT, CONSUMER CREDIT, COMPOUND INTEREST, FUTURE VALUE AND PRESENT VALUE

- Explain the simple interest formula
- Explain ordinary and exact time and interest
- Identify the elements of a promissory note
- Define terms related to consumer credit
- Explain how installment loans and closed-end credit are calculated
- Explain the rule of 78
- Explain open-end loans
- Describe how compound interest, future value, and present value are calculated
- Calculate simple interest, maturity value, principle, rate, and time
- Calculate ordinary time, exact time, due date, daily interest rate, and simple interest
- Calculate promissory note items
- Calculate the amount financed, installment price, and finance charge
- Calculate the installment payment and Annual Percentage Rate (APR)
- Calculate the interest refund using the rule of 78
- Calculate the finance charge and balance for open-end credit
- Calculate the future value, present value, and effective interest

ANNUITIES, SINKING FUNDS, STOCKS, AND BONDS

- Explain annuities and sinking funds
- Calculate the future value of an annuity, the present value of an annuity, and the sinking fund payment
- Define terms as related to stocks and bonds
- Interpret stock listings
- Interpret bond and mutual fund listings
- Calculate and distribute dividends
- Calculate the price of bonds

MORTGAGES

- Define terms related to mortgage payments
- Explain how mortgage payments are calculated
- Calculate the monthly mortgage payment and total interest
- Produce an amortization schedule

DEPRECIATION

- Explain depreciation methods for financial statement reporting
- Explain depreciation methods for Internal Revenue Service (IRS) reporting
- Calculate depreciation using the straight-line, units-of-production, sum-of-the-years-digits, and declining balance methods
- Calculate depreciation using various tax depreciation methods

INVENTORY

- Explain the concepts of inventory, turnover, and overhead
- Calculate ending inventory and cost of goods sold using the specific identification, weighted-average, FIFO(First In, First Out), LIFO(Last In, First Out), retail, and gross profit methods
- Compute the inventory turnover rate and overhead

INSURANCE AND TAXES

- Define various terms related to insurance
- Explain the purpose of insurance and how premiums and refunds are determined
- Estimate life, property, and vehicle premiums and cancellation

- Describe the various types of taxes collected by the government
- Explain how different types of taxes are determined
- Calculate sales, property, and income taxes

FINANCIAL STATEMENTS

- Explain the purpose of a balance sheet and income statement
- Describe the purpose of a financial ratio
- Complete a balance sheet and income statement
- Analyze financial statements using financial ratios and analyses

Note: In order to qualify for an externship, students must successfully complete the program, including all quizzes and final exams, and be available for a background check and/ or a potential drug screen. This program can be completed in 6 months. However, students will have online access to this program for a 12- month period.

Education and Certifications

- Business Math Specialist Program candidates should have or be pursuing a high school diploma or GED.
- **National Certification Available:**
Students who complete this comprehensive course would be prepared to sit for the **Microsoft Office Specialist (MOS) Certification Exam.**

MICROSOFT OFFICE Module

- Use an integrated software package, specifically the applications included in the Microsoft Office suite
- Demonstrate marketable skills for enhanced employment opportunities
- Describe proper computer techniques for designing and producing various types of documents
- Demonstrate the common commands & techniques used in Windows desktop
- List the meaning of basic PC acronyms like MHz, MB, KB, HD and RAM
- Use WordPad and MSWord to create various types of documents
- Create headings and titles with Word Art
- Create and format spreadsheets, including the use of mathematical formulas
- Demonstrate a working knowledge of computer database functions, including putting, processing, querying and outputting data
- Define computer terminology in definition matching quizzes
- Use the Windows Paint program to alter graphics
- Use a presentation application to create a presentation with both text and graphics
- Copy data from one MS Office application to another application in the suite
- Use e-mail and the Internet to send Word and Excel file attachments
- Demonstrate how to use the Windows Taskbar and Windows Tooltips
- Explain how copyright laws pertain to data and graphics posted on the Internet
- Take the college computer competency test after course completion
- Follow oral and written directions and complete assignments when working under time limitations

Note: Although the Microsoft Office Module is not required to successfully complete this program, students interested in pursuing free Microsoft MOS certification may want to consider completing this Microsoft Office Module at no additional cost.

System Requirements:

Windows Users:

- Windows 7, XP or Vista
- 56K modem or higher
- Soundcard & Speakers
- Firefox, Chrome or Microsoft Internet Explorer

Mac OS User:

- Mac OS X or higher (in classic mode)
- 56K modem or higher
- Soundcard & Speakers
- Apple Safari

iPad Users:

- iPad – iOS 5.1 (or latest)

Screen Resolution:

- We recommend setting your screen resolution to 1024 x 768 pixels.

Browser Requirements:

- System will support the two latest releases of each browser. When using older versions of a browser, users risk running into problems with the course software.
- Windows Users: Mozilla Firefox, Google Chrome, Microsoft Internet Explorer
- Mac OS Users: Safari, Google Chrome, Mozilla Firefox

Suggested Plug-ins:

- Flash Player
- Real Player
- Adobe Reader
- Java