CLEMSON
U N I V E R S I T Y

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Education & Training Plan
Business Math Specialist Certificate Program with Externship

Student Full Name: _____

Start Date: _____   End Date: _____

Program includes National Certification & an Externship Opportunity
Mentor Supported

Business Math Specialist Certificate Program with Externship
Course Code: CLEM-B-MATH
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.

Education and National Certifications
- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- There is a National Certification exam available to students who successfully complete this program:
  - **Microsoft Office Specialist (MOS) Certification Exam**.

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 math concepts to business transactions involving annuities, 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

National Certification
Upon successful completion of this Clemson University program, students would be eligible to sit for the Microsoft Office Specialist (MOS) exam. Although there are no state approval, state registration or other state requirements for this program, students who complete this program at Clemson University will be prepared and are eligible to sit for this national certification exam. Students who complete this program are encouraged to complete the externship option with their program. Students who complete this program can and do sit for the MOS national certification exams and are qualified, eligible and prepared to do so. Clemson University works with each student to complete the exam application and register the student to take their national certification exam.

Externship / Hands on Training / Practicum
Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location. Clemson University works with national organizations and has the ability to place students in externship opportunities nationwide.

Clemson University contact: If students have any questions regarding this program including national certification and externships**, they should call Juanita Durham of Clemson University at 864.656.3984 or via email at jdrhm@clemson.edu.**

Note: No refunds can be issued after the start date published in your Financial Award document.

About Clemson University!

Clemson Online, a unit reporting directly to the Provost, works closely with leadership teams across the University to develop, market, and deliver top-quality courses and programs in blended and online formats. The office provides vision, leadership, coordination, and expertise in support of faculty design, delivery, and evaluation of technology-enhanced, blended, and fully online courses and instructional materials. Dynamic, transformative, and unique eLearning opportunities characterize Clemson's approach to online teaching and learning.

Our Mission: Clemson Online provides strategic leadership for online education, emphasizing innovative teaching and superior learning outcomes to maximize student success in 21st-century academic and professional contexts.

Our Vision: Clemson Online will define the public web-grant university through measurable achievements in online education, research, and service.
The office is committed to pursuing strategic opportunities, providing supportive resources, promoting superior educational quality, and ensuring faculty involvement and responsibility in shaping Clemson's online future.

Clemson University and Pearson Education

The Clemson University's Office of Professional and Continuing Education eLearning programs were developed in partnership with Pearson Education to produce the highest quality, best-in-class content and delivery necessary to enhance the overall student learning experience, boost understanding and ensure retention. Pearson Education is the premier content and learning company in North America offering solutions to the higher education and career training divisions of colleges and universities across the country aimed at driving quality education programs to ensure student success. Please visit us at **www.pearson.com**.

About Pearson Education

Welcome to Pearson. We have a simple mission: to help people make more of their lives through learning. We are the world's leading learning company, with 40,000 employees in more than 80 countries helping people of all ages to make measurable progress in their lives. We provide a range of education products and services to institutions, governments and direct to individual learners, that help people everywhere aim higher and fulfil their true potential. Our commitment to them requires a holistic approach to education. It begins by using research to understand what sort of learning works best, it continues by bringing together people and organizations to develop ideas, and it comes back round by measuring the outcomes of our products.

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, 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 and 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, 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 and 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, First In, First Out, 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: This program can be completed in 6 months. However, students will have online access to this program for a 24-month period.

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 8, 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:
- Due to Flash limitations, eLearning programs are NOT compatible with iPads

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