

## DESE Model Curriculum

GRADE LEVEL/UNIT TITLE: 11-12/Business Math

Course Code: 040011/034305

CIP Code: 52.0701/52.0101

### **COURSE INTRODUCTION:**

**An instructional program that provides a background for the development and operation of a business starting with the role of the entrepreneur in our economy to development of a business plan and the application of specific marketing skills and concepts within the business environment.**

**Instruction in this area prepares students to understand how to organize and operate a business. All students can benefit from an understanding of and appreciation for entrepreneurship and its role in the enterprise system.**

**This course is designed to provide students with the fundamental knowledge needed for organizing, developing, and implementing a business concern within the private free enterprise system. Topics of student will include learning the advantages and disadvantages of owning a business, preparing a business plan, choosing a location, securing a loan, determining organizational structure, and promoting a business.**

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<b>UNIT DESCRIPTION:</b>  Students learn how entrepreneurs use math for business purposes.		<b>SUGGESTED UNIT TIMELINE: 1 WEEK</b>  <b>CLASS PERIOD (min.): 50 MINUTES</b>				
<b>ESSENTIAL QUESTIONS:</b>  1. Why does an entrepreneur need to know math? 2. How can you use financial statements to calculate financial ratios?						
ESSENTIAL MEASURABLE LEARNING OBJECTIVES	CCSS LEARNING GOALS (Anchor Standards/Clusters)	CROSSWALK TO STANDARDS				
		GLEs/CLEs	PS	CCSS	OTHER	DOK
1. Describe the sources of income (wages/salaries, interest, rent, dividends, transfer payments, etc.)	G.03			RST 11-12.4	Acctg IV.E.3.a	<b>2</b>
2. Describe costs associated with credit	G.07			RST 11-12.4	Comp VI.F.3.g	<b>2</b>
3. Use money effectively	G.09			SL 11-12.5	Comp VI.G.3.a	<b>1</b>
4. Describe services provided by financial institutions	G.10			RST 11-12.2	Entre IV.B.3.d	<b>2</b>
5. Calculate financial ratios	I.05			F -IF.4	Entre IV.A.3.a	<b>2</b>
6. Determine and deposit payroll taxes	I.06			RST 11-12.4 F-IF.4	Acctg VI.C.3.b	<b>4</b>
7. Calculate breakeven point	L.33			F- IF.4	Entre C.3.c	<b>2</b>
<b>ASSESSMENT DESCRIPTIONS*:</b> (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc. )  <b>Give a math pre-test to assess students math skills (formative).</b>						

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<b>*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above ( i.e., Grade Level/Course Title/Course Code, Unit #.)</b>	
<b>Obj. #</b>	<b>INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods)</b>
5	1. Lecture, guided practice to understand financial ratios.
1	2. Guided practice worksheets
2, 3, 4, 7	3. Guided practice worksheets
6	4. Guided practice worksheets
<b>Obj. #</b>	<b>INSTRUCTIONAL ACTIVITIES: (What Students Do)</b>
5	1. Students utilize teacher provided worksheets and activities on understanding financial ratios.
1	2. Students practice calculating payroll and annual income.
2, 3, 4, 7	3. Students practice performing a break even analysis and calculating profit sharing.
6	4. Students practice calculating taxes and retirement.
<b>UNIT RESOURCES: (include internet addresses for linking)</b>	
<b>Resources @ MCCE:</b>	
<b>BE 13.1397 M112 - Mathematics &amp; Economics: Connections for Life, Grades 9-12</b>	
Rich MacDonald, Lisa Breidenbach, Evelyn L. Doetschman NEW YORK, NY, NATIONAL COUNCIL ON ECONOMIC EDUCATION, 2003. BOOK — This publication shows how mathematics concepts and knowledge can be used to develop economic and personal financial understandings. Lessons include: The Nature of Demand; The Nature of Supply; Profit Mathematics; Cash or Annuity?; Tax Math; The Mathematics of Savings; The Mathematics of Credit Card Interest and Fixed Payments.	

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### **E 10.0000 B637 - Connecting Mathematics and Science to Workplace Contexts: A Guide to Curriculum Materials**

Edward Britton, Mary Ann Huntley, Gloria Jacobs, Amy Shulman Weinberg

THOUSAND OAKS, CA, CORWIN PRESS, INC., 1999.

BOOK — In this comprehensive review of 23 exemplary curricula/programs, The authors of this comprehensive review of 23 curricula/programs offer an easy-to-use guide for tying curriculum to workplace experiences. From a hematology laboratory to an agricultural setting to a soda bottling company—these programs illustrate concrete real-life situations. This resource is designed to help: Meet the goals of science, mathematics, and technology education; Meet national curriculum standards; Chart key characteristics of successful curricula; Connect curriculum to workplace contexts; Create curriculum materials. For mathematics and science educators, curriculum developers and supervisors, and educators in school-to-work programs and vocational courses.

### **E 10.0000 M166 - Teaching Money Applications to Make Mathematics Meaningful, Grades 7-12**

Elizabeth Marquez and Paul Westbrook

THOUSAND OAKS, CA, CORWIN PRESS, 2007.

BOOK — The authors illustrate instructional strategies that connect required mathematical concepts with basic money matters, giving students a solid understanding of financial realities essential to successful everyday living. This resource meets the expanding demands for equity and accountability and: Relates math to credit cards, paying taxes, stocks & bonds, mortgages, buying a car, and much more; Expands teachers' knowledge of basic financial concepts; Provides suggestions for projects to extend the concepts learned; Includes a math locator, glossary of money terms, comprehensive index, and summary of formulas.

### **TE DVD ROM 5.2 - Algebra in the Real World**

The Futures Channel

BURBANK, CA, THE FUTURES CHANNEL, 2010.

DVD ROM — This program is designed to show students the excitement, the power, the range and the results of the applications of algebra in fascinating career fields. From astronomy to forestry, sports equipment design to saving endangered species, alternative energy to farming, algebra is shown in its vital role as the tool that allows us to create, to understand, and to improve our world. Includes algebra curriculum connections, and correlations to the Common Core Mathematics Standards. DVD includes the following movies: Aquarium Makers; Building & Testing Wheels; Designing Stronger Skateboards; Engineering Faster Bikes; First One in the Ballpark; The Forester; Landscape Architects; The Lundberg Farms; Maglev Trains; Reliable Robots; Roller Coasters; Saving the Bald Eagle; Solar Energy: Photovoltaics; The Starshade; Structural Engineering; Testing the Robotic Hand; The Wind Business; Windsails.