

Perris Union High School District

Course of Study

A. COURSE INFORMATION

Course Title: <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Advanced Algebra w/Financial Applications Essentials</div> <input checked="" type="checkbox"/> New <input type="checkbox"/> Revised	Subject Area: <input type="checkbox"/> Social Science <input type="checkbox"/> English <input checked="" type="checkbox"/> Mathematics <input type="checkbox"/> Laboratory Science <input type="checkbox"/> World Languages <input type="checkbox"/> Visual or Performing Arts <input type="checkbox"/> College Prep Elective <input type="checkbox"/> Other	Grade Level <input type="checkbox"/> MS <input checked="" type="checkbox"/> HS <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input checked="" type="checkbox"/> 11 <input checked="" type="checkbox"/> 12
If revised previous course name if changed <div style="border: 1px solid black; padding: 2px; margin-top: 5px;">n/a</div>	Is this classified as a Career Technical Education course? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Transcript Course Code/Number: <div style="border: 1px solid black; height: 20px; margin-top: 5px;"></div> (To be assigned by Educational Services)	Required for Graduation: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Meets UC/CSU Requirements? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Was this course <u>previously approved by UC</u> for PUHSD? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Will be verified by Ed Services)	Credential Required to teach this course: <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <i>Single Subject: Mathematics</i> <u>To be completed by Human Resources only.</u> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="border: 1px solid black; padding: 2px; width: 60%; text-align: center;"> <i>Stephanie Wilton</i> Signature </div> <div style="border: 1px solid black; padding: 2px; width: 30%; text-align: center;"> 3/25/2022 Date </div> </div> <div style="margin-top: 10px; text-align: center;"> CalPADS CODE 9254 </div>	
Meets "AP" Requirements? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Meets "Honors" Requirements? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Submitted by: PUHSD Teachers Site: HHS, PVHS, LHS Date: March 24, 2022	Unit Value/Length of Course: <input type="checkbox"/> 0.5 (half year or semester equivalent) <input checked="" type="checkbox"/> 1.0 (one year equivalent) <input type="checkbox"/> 2.0 (two year equivalent) <input type="checkbox"/> Other:	
Approvals	Name/Signature	Date
Director of Curriculum & Instruction		3/25/22
Asst. Superintendent of Educational Services		3/25/22

Governing Board		
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Prerequisite(s) (REQUIRED):
Algebra recommended, not required.
Corequisite(s) (REQUIRED):
none
Brief Course Description (REQUIRED):
Advanced Algebra with Financial Applications Essentials is a mathematical modeling course that is algebra-based, applications-oriented, and technology infused. The course addresses college preparatory mathematics topics from statistics and probability: Employment and Salary, Income Taxes, Banking, Household Budgeting, Independent Living and Retirement Planning. The course allows students to experience the interrelatedness of mathematical topics, find patterns, make conjectures, and extrapolate from known situations to unknown situations.

B. COURSE CONTENT
Course Purpose (REQUIRED): <i>What is the purpose of this course? Please provide a brief description of the goals and expected outcomes. Note: More specificity than a simple recitation of the State Standards is needed.</i>
The purpose of the course is for students to expand upon concepts learned in previous math courses through higher level applications of real world financial algebra. This class is a project-oriented class designed so that upon completion students are well prepared for financial decisions that they will face in their future.
Course Outline (REQUIRED): <i>Detailed description of topics covered. All historical knowledge is expected to be empirically based, give examples. Show examples of how the text is incorporated into the topics covered.</i>
Unit 1: Employment and Salary <ul style="list-style-type: none"> ◆ Chapter 5 Employment Basics ● CCSS Standards for Mathematical Practice 1, 2, 4, 6, 7, 8

- CA Common Core State Standards Algebra 1 REI3, CED1, CED2, FIF7
- Students will:
 - Compute periodic salary based on annual contract salary
 - Compute weekly, semimonthly, and biweekly earnings given annual salary
 - Compute hourly pay and overtime pay given hourly rate
 - Solve multi-step equations including proportions
 - Construct representations of data using a table and graph
 - Translate equations in one and two variable (slope-intercept form) and solve
 - Compute annual salaries based on annual percentage increases
 - Compute pay based on percent commission
 - Explain advantages and disadvantages of pay based on production
 - Explain and calculate the value of certain employee benefits
 - Compute paychecks deductions for Social Security
 - Compute paycheck deductions for Medicare

Unit 2: Income Taxes

- Chapter 6 Incomes Taxes
- CCSS Standards for Mathematical Practice 1, 2, 4, 6, 7, 8
- CA Common Core State Standards Algebra 1 CED1, FIF7
- Students will:
 - Express tax schedules algebraically
 - Compute federal income taxes using a tax table and tax schedules

Unit 3: Banking

- Chapter 2 Banking
- CCSS Standards for Mathematical Practice 1, 2, 4, 6, 7, 8
- CA Common Core State Standards Algebra 1 FIF7, REI6
- Students will:
 - Explain how checking and savings accounts work
 - Explain the meaning of a credit score and the factors that affect a credit score
 - Complete a check register
 - Reconcile a checking account with a bank statement by hand and by using a spreadsheet
 - Define the basic vocabulary of savings accounts
 - Compute simple interest using the simple interest formula
 - Explain the concept interest rates
 - Compute compound interest using a table
 - Understand the derivation of the compound interest formula
 - Make computations using the compound interest formula
 - Graph exponential function and decay
 - Graph a system of linear equations (paying different monthly amounts on a debt each month)
 - Compute interest on an account that is continuously compounded

Unit 4: Household Budgeting

- Chapter 11 Prepare a Budget
- CCSS Standards for Mathematical Practice 1, 2, 4, 6, 7, 8
- CA Common Core State Standards Algebra 1 FIF7
- Students will:
 - Compute the cost of electricity, gas, oil, and water for the home.
 - Compute the time it takes an energy-saving appliance to pay itself.
 - Compute the cost of cell phone plan, internet service, and cable.

- Compare different plans for these services.
 - Set up, graph, and interpret an average cost function.
- Create and use a budget check-off chart.
- Visualize and interpret a budget using a circle graph, a bar graph, a line graph, and a budget line graph.
- Develop and interpret a cash flow chart.
- Develop and interpret a frequency budget plan.

Unit 5: Independent Living and Retirement Planning

- Chapters 7 & 10
- CCSS Standards for Mathematical Practice 1, 2, 4, 6, 7, 8
- CA Common Core State Standards Algebra 1 CED2
- Students will:
 - Calculate the affordability of a monthly rent
 - Calculate Monthly Expenditures
 - Compare and Contrast Constant vs Variable Bills
 - Compute mortgage interest (15 year loan vs 30 year loan)
 - Compute the monthly cost of paying for a house
 - Explore the research that is necessary before you purchase a home
 - Analyze an amortization table/graph for a fixed-rate mortgage with extra payments
 - Explain the advantages and disadvantages of purchasing different types of homes
 - Calculate future values of retirement investments that are both single deposits and periodic
 - Compute the cost of different types of life insurance
 - State the advantages and disadvantages of different types of life insurance
 - Write, interpret and graph a straight line depreciation equation
 - Use the formula for the relationship between distance, fuel economy and gas usage
 - Identify different types of auto insurance coverage

Writing Assignments (REQUIRED):

Give examples of the writing assignments and the use of critical analysis within the writing assignments.

Resume

After each unit, write a 1 paragraph summary or reflective writing using academic vocabulary comparing/contrasting the main ideas of the unit (i.e. W4/W2, types of insurance and when needed, checking vs. savings account and when needed, etc)

INSTRUCTIONAL MATERIALS (REQUIRED)

Textbook #1

Title: Financial Algebra

Edition: 2nd

Author: Robert Gerver/ Richard Sgroi

ISBN-13: 978-1-337-27179-0

Publisher: Cengage Learning

Publication Date: December 2017

Usage: <input checked="" type="checkbox"/> Primary Text <input type="checkbox"/> Read in entirety or near	
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Textbook #2

Title:	Edition:
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Author:	ISBN:
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Publisher:	Publication Date:
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Usage: <input type="checkbox"/> Primary Text <input type="checkbox"/> Read in entirety or near	
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Supplemental Instructional Materials <i>Please include online, and open source resources if any.</i>

Demos Google Sheets Khan Academy
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Estimated costs for classroom materials and supplies (REQUIRED). <i>Please describe in detail.</i> If more space is needed than what is provided, please attach backup as applicable.

Cost for class set of textbooks: \$	Description of Additional Costs:
Additional costs:\$	
Total cost per class set of instructional materials:	\$

Key Assignments (REQUIRED):

Please provide a detailed description of the Key Assignments including tests, and quizzes, which should incorporate not only short answers but essay questions also. How do assignments incorporate topics? Include all major assessments that students will be required to complete
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<u>SEMESTER ONE</u>

Unit 1: Employment and Salary

<u>Key Assignment 1.1:</u> Students will create a resume for a chosen career.

<u>Key Assignment 1.2:</u> Students compute the gross pay for a fictional person given their hourly wage and the number of hours worked. They compare gross pay to net pay.

Unit 2: Income Taxes

Key Assignment 2.1:

Students learn what FICA and federal income taxes are. They learn how to complete a W-4 form and what a W-2 form is.

Key Assignment 2.2: Creating the Tax Worksheet

Students will determine which tax brackets they would fall under according to their chosen career. They will then calculate monthly withholdings.

Unit 3: Banking

Key Assignment 3.1:

Create a spreadsheet that compares/contrasts bank vs. credit union services and fees including:

- Checking accounts/Savings accounts

SEMESTER TWO

Unit 4: Household Budgeting

Key Assignment 4.1:

Mathematics: Linear equations, domain, and range.

Mathematics Learning Goals: Students will construct and interpret a graphical representation of a particular aspect of a budget. The students will model percentages in the real-world authentic contexts of sales tax, discounts, and compare cost. It will require students to do two step equations. Students will make algebraic connections between the idea of fees and taxes to the previously learned concepts with percentages and discounts.

Students will utilize the internet (i.e. California Career Zone and additional site) in order to create a household budget plan. In addition, they will create a linear graph or pie chart that displays their mean/median for items within their budget. Students will use their graph to compare expenses and essentials vs discretionary household items.

Unit 5: Independent Living and Retirement Planning

Key Assignment 5.1

Mathematics:

Mathematics Learning Goals: In this unit, students work their way through the mathematics that models moving, renting, and purchasing a place to live. They also explore a study of retirement savings plans, both personal and federal, employee pension programs, and life insurance. Additionally, students are asked to call upon the knowledge acquired in all of the preceding units in order to create a life skills portfolio that will be their resource to use after graduating high school.

Students will identify daily living expenses and create a budget. Students will determine if their salary is sufficient enough to provide for their independent living means. Students will come up with an analysis of multiple living options (i.e rent/buy/live at home/etc.) and compare the outcomes to determine the best solutions for their income.

Instructional Methods and/or Strategies (REQUIRED):

Please list specific instructional methods that will be used.

Project-oriented instruction Application of concepts Math Modeling Direct/guided instruction w/ Modeling including use of graphic organizers Group Collaboration
Assessment Methods and/or Tools (REQUIRED):
Please list different methods of assessments that will be used.
Writing Prompts Group and Individual Projects Quizzes Oral Presentation Key Assignment Portfolio

COURSE PACING GUIDE AND OBJECTIVES (REQUIRED)			
Day(s)	Objective	Standard(s)	Chapter(s)
30	Unit 1: Employment and Salary	REI3, CED1, CED2, FIF7	5
30	Unit 2: Income Taxes	CED1, FIF7	6
30	Unit 3: Banking	FIF7, REI6	2
45	Unit 4: Household Budgeting	FIF7	11
40	Unit 5: Independent Living and Retirement Planning	CED2	7 & 10

C. HONORS COURSES ONLY
Indicate how much this honors course is different from the standard course.
n/a

D. BACKGROUND INFORMATION
Context for course (optional)

This course is being developed to offer our SPED students a project-oriented, application-based third year math course that satisfies the graduation requirement of 3 years of math.

History of Course Development (optional)

n/a