§130.180. Financial Mathematics (One Credit), Adopted 2015.

(a)   General requirements. This course is recommended for students in Grades 10~~11~~-12. Prerequisite: Algebra I. This course satisfies a high school mathematics graduation requirement. Students shall be awarded one credit for successful completion of this course.

(b)   Introduction.

   (1)   Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.

   (2)   The Finance Career Cluster focuses on planning, services for financial and investment planning, banking, insurance, and business financial management.

   (3)   Financial Mathematics is a course about personal money management. Students will apply critical-thinking skills to analyze personal financial decisions based on current and projected economic factors.

   (4)   Financial Mathematics will integrate career and postsecondary education planning into financial decision making.

   (5)(4)   The mathematical process standards describe ways in which students are expected to engage in the content. The placement of the process standards at the beginning of the knowledge and skills listed for each grade and course is intentional. The process standards weave the other knowledge and skills together so that students may be successful problem solvers and use mathematics efficiently and effectively in daily life. The process standards are integrated at every grade level and course. When possible, students will apply mathematics to problems arising in everyday life, society, and the workplace. Students will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Students will select appropriate tools such as real objects, manipulatives, paper and pencil, and technology and techniques such as mental math, estimation, and number sense to solve problems. Students will effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, and language. Students will use mathematical relationships to generate solutions and make connections and predictions. Students will analyze mathematical relationships to connect and communicate mathematical ideas. Students will display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

   (6)(5)   Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.

   (7)(6)   Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.

(c)   Knowledge and skills.

   (1)   The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:

      (A)   demonstrate an understanding of appropriate communication with customers, employers, and coworkers through verbal, nonverbal, or digital means;

      (B)   demonstrate an understanding of the use of business etiquette;

      (C)   demonstrate an understanding of appropriate customer service such as building customer relationships and resolving customer complaints; and

NOTE: The original section number for the new financial mathematics TEKS (§130.183) was changed to §130.180 subsequent to the April 2015 State Board of Education meeting. This was necessary to ensure the financial mathematics TEKS take effect August 24, 2015, the beginning of the 2015-2016 school year. The section number originally proposed (§130.183) is currently assigned and would not be available for use as a section number until August 2017.

(D)   demonstrate an understanding of ethical and legal issues in business.

(2)   The student applies mathematical process standards to acquire and demonstrate mathematical understanding. The student is expected to:

    (A)   apply mathematics to problems arising in everyday life, society, and the workplace;

    (B)   use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;

    (C)   select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;

    (D)   communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;

    (E)   create and use representations to organize, record, and communicate mathematical ideas;

    (F)   analyze mathematical relationships to connect and communicate mathematical ideas; and

    (G)   display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

(3)   ~~The student demonstrates an understanding of the fundamental principles of money. The student is expected to demonstrate an understanding of various forms of financial exchange, including cash, checks, credit cards, debit cards, and electronic funds transfers.~~

(3)~~(4)~~   The student applies mathematical process standards to demonstrate~~s~~ an understanding of employment earnings. The student is expected to:

    (A)   identify sources of income, including wages and salaries, interest, rent, dividends, and capital gains;

    (B)   compare common employee benefits such as health insurance, sick leave, and retirement plans;

    (C)   differentiate among and calculate gross ~~pay~~, net, and taxable income;

    (D)   calculate payroll deductions, including federal taxes, state taxes, and city taxes, using current tax rates;

    (E)   examine and evaluate the reasons for federal income taxation, Social Security taxation, and Medicare taxation, including earnings limitations as applicable;

    (F)   calculate net pay; ~~and~~

    (G)   compare and contrast between independent contractor earnings and employee earnings, including tax requirements, tax forms (W-2, W-4, 1099, and Form 941), and benefit requirements;

    (H)   calculate the various earnings as affected by the laws related to minimum wage, overtime, income from tips, exempt and non-exempt status, and contract and employee status;

    (I)   calculate the impact of paying with after-tax dollars versus pre-tax dollars for items such as medicine, services, and investments;

    (J)   calculate total compensation, including payroll, Federal Insurance Contribution Act (FICA) tax, employer cost of benefits, employers' matching costs for FICA and Medicare, and employer match in savings plans, to explain how compensation is more than what is reflected in a paycheck;

    (K)   compare total compensation as a self-employed or independent contractor with total compensation as an employee; and

(L)   analyze how economic and other conditions can affect income and career opportunities and the need for lifelong training and education.

(4)(5) The student applies mathematical process standards to demonstrates an understanding of the various federal taxes. The student is expected to:

(A)   calculate federal income taxes owed or refunded, including the completion of a 1040EZ and 1040, using current rates;

(B)   calculate capital gains tax using current rates;

(C)   calculate self-employment or independent contractor taxes using current rates;

(D)   define and locate sources for current rates for analyze estate and inheritance taxes using current rates; and

(E)   analyze gift and estate taxes using current rates;

(F)   calculate tax on interest income;

(G)   calculate personal exemptions;

(H)   calculate itemized deductions and compare to standard deductions;

(I)   calculate deductible charitable contributions;

(J)   understand filing status as it applies to X, Y, and Z tax schedules;

(K)   compare marginal tax rates to effective income tax rates and the misuse of these terms in advertising;

(L)   understand the application of education tax credits and student loan interest deductions to reduce income tax; and

(M)   research and locate options for tax return preparation such as software programs and tax preparation providers.

(5)(6) The student applies mathematical process standards to demonstrates an understanding of between the various financial institutions and accounts. The student is expected to:

(A)   demonstrate an understanding of various forms of financial exchange, including cash, checks, credit card, debit cards, and electronic funds transfers;

(B)(A) compare and contrast the features of interest-bearing accounts such as savings accounts, checking accounts, certificates of deposits, and money market other interest bearing accounts;

(C)(B) calculate simple interest;

(D)(C) calculate compound interest and use the rule of 72 to determine the number of years it will take for savings to double in value;

(E)(D) analyze a bank statement for accuracy;

(E)   reconcile a bank statement; and

(F)   calculate the time value of money;

(G)   compare financial services offered in the community; and

(H)   identify the sources of funds such as savings, earnings, or debt to be used to purchase consumable and nonconsumable goods.

(6)(7) The student applies mathematical process standards to demonstrates an understanding of the various types of credit. The student is expected to:

(A)   examine the advantages and disadvantages of loans, including student loans;

(B)   assess the advantages and disadvantages of credit cards;

(C)   calculate the cost of using credit cards, including various financial fees;

(D)   analyze the differences and risks in the cost of borrowing using compare and contrast a bank loan, a credit union loan, and an easy-access loan such as pay-day and auto title loans;

(E)   evaluate the process for a bank loan or a credit union loan; and

(F)   calculate compound interest paid when regular payments are made;

(G)(F)   analyze credit scores and explain understand the meanings of the scores;

(H)   investigate ways that a negative credit report can affect a consumer's financial options; and

(I)   analyze a personal credit report.

(7)(8)   The student applies mathematical process standards to demonstrates an understanding of the cost of housing by comparing home purchases and renting. The student is expected to:

(A)   calculate a mortgage payment with various additional principal payments;

(B)   prepare an amortization table with a variety of down payments and interest rates for a home loan;

(B)   calculate property taxes'

(C)   compare options for saving for a down payment on a home;

(C)   calculate mortgage insurance;

(D)   determine costs associated with home ownership, including property taxes; mortgage insurance; homeowner's insurance, including property damage, liability, and flood and earthquake insurances; and closing costs;

(D)   calculate homeowner's insurance, including property damage insurance, liability insurance, flood insurance, and earthquake insurance;

(E)   calculate closing costs;

(E)(F)   calculate mortgage tax deductions; and

(F)   determine other costs associated with home ownership, including cost of maintenance, repairs, utilities, and association fees;

(G)   determine the appropriate savings needed to maintain home payments in the event of a financial emergency;

(G)   understand the usage of rental property for investment.

(H)   demonstrate an understanding of the consequences to individuals in times of recession and falling home prices such as during the mortgage crisis of 2007-2008 and identify how the financial and personal impact could have been reduced;

(I)   compare the cost of homeownership versus renting, including mortgage-related income tax deductions;

(J)   demonstrate how to use the multiple listing service to identify and compare housing properties;

(K)   analyze and explain a typical apartment lease such as terms, deposit, occupancy, parking, and cancellation contract policy; and

(L)   compare options for coverage for renter's insurance.

(8)(9)   The student applies mathematical process standards to demonstrates an understanding of the difference between an vehicle automobile purchase and an vehicle automobile lease and costs associated with each. The student is expected to:

(A) prepare a monthly amortization table with a variety of down payments and interest rates for a vehicle loan;

(A) calculate a monthly payment;

(B) determine the costs associated with owning and leasing a vehicle, including insurance, maintenance, repairs, and fuel;

(B) calculate sales taxa and registration tax;

(C) compare the total cost of buying and owning a vehicle to leasing a vehicle;

(C) calculate an amortization payment table with various additional principle payments;

(D) compare the total cost of purchase and maintenance of several possible vehicles;

(D) calculate a lease payment;

(E) identify and understand the costs and benefits of maintenance contracts and vehicle warranties;

(E) compare the purchase of an automobile to a lease of an automobile;

(F) calculate the funding needed to maintain vehicle payments in the event of a financial emergency; and

(F) calculate depreciation of an automobile using straight line depreciation and double declining balance depreciation; and

(G) research various options for a driver's education course and the benefits of the course and the impact of a moving violation on insurance rates.

(G) calculate automobile insurance.

(9)(10) The student applies mathematical process standards to demonstrates an understanding of investment options stocks, bonds, and mutual funds as investments. The student is expected to:

(A) identify the factors involved in the various methods of calculate the cost of buying and selling stocks and mutual funds, including load and no-load funds, by evaluating the stock dividend yield, price-earnings ratio, return on investment, earnings per share, and net asset value; and

(B) calculate the cost of buying and selling bonds and analyze the investment return from bond yields and bond interest payments;

(C) compare differences among investments, including stocks, bonds, mutual funds, Exchange Traded Funds, and real estate; and

(D) compare the risk and return for a diversified and non-diversified investment portfolio in a student-created portfolio.

(11) The student demonstrates an understanding of a diverse investment portfolio. The student is expected to create a diverse investment portfolio.

(10)(12) The student applies mathematical process standards to demonstrates an understanding of various types of insurance, including life insurance, health insurance, disability insurance, and income cancer insurances, and special protection. The student is expected to:

(A) analyze the costs and benefits of term and permanent (whole) life insurance such as the cost of premiums, dividends, accumulation of cash value, tax treatment of death benefits, and protection from creditors of death benefits and cash values;

(A) calculate the cost of a life insurance policy, including a term life insurance policy, and permanent life insurance policies;

(B) identify the type of life insurance needed and estimate the amount of life insurance needed using a needs approach or an earnings multiple approach;

(C)(D)   estimate calculate the cost of healthcare coverage health insurance, including the cost of health insurance premiums, co-payments, deductibles, and out-of-pocket expenses;

(C)   calculate the cash value of a permanent life insurance policy;

(D)(E)   explain the need for calculate the cost of disability income insurance and research the cost;

(E)(F)   compare the benefits to calculate the costs of special protection coverages such as cancer, pet, vacation, burial, international travel, and purchase protection insurance;

(F)   demonstrate an understanding of the actuarial process used to set premiums; and

(G)   demonstrate an understanding of insurance company and agent selection and professional designations within the insurance profession.

(11)(13) The student applies mathematical process standards to demonstrates an understanding of retirement plans an Individual Retirement Account (IRA) and a 401(k). The student is expected to calculate IRA and 401(k) tax savings.:

(A)   compare tax advantage retirement plans, including Individual Retirement Accounts (IRAs), Roth IRAs, 401(k) plans, and 403(b) plans, and determine an appropriate investment for retirement;

(B)   calculate the exponential growth benefits of starting early to invest with continuous contributions;

(C)   calculate tax treatment penalty for early withdrawal; and

(D)   calculate the amount that must be saved annually to achieve financial independence by a desired age.

(12)(14) The student applies mathematical process standards to demonstrates an understanding of a fixed pension, a variable pension, social security, and an annuity. The student is expected to identify an annuity and calculate the future value of an annuity.

(13)(15) The student applies mathematical process standards to demonstrates an understanding of wills and trusts for the distribution of assets at death. The student is expected to identify how the components of wills and trusts support the distribution of assets after death and their impacts on tax liability and their use of annuities.

(14)   The student applies mathematical process standards to demonstrate an understanding of charitable giving. The student is expected to demonstrate an understanding of the value and benefits of charitable giving.

(15)(16) The student applies mathematical process standards to demonstrates an understanding of the budgeting process. The student is expected to: create, balance, and evaluate a comprehensive personal budget, including fixed expenses and variable expenses.

(A)   evaluate a comprehensive personal budget, including fixed and variable expenses, college savings, emergency savings, and retirement savings;

(B)   prepare and balance a budget, including fixed and variable expenses, and differentiate between wants and needs;

(C)   identify free resources to assist with maintaining a budget; and

(D)   compare different standards of living in the United States, including poverty, minimum wage, living wage, and desired standards of living.

(16)(17) The student applies mathematical process standards to demonstrates an understanding of identity theft. The student is expected to: create a plan for prevention of identify theft and for the reporting of identity theft.

(A)   define and explain types of identity theft;

(B)   create a plan for prevention of identity theft; and

(C)   identify suitable methods for reporting identity theft.

(17)~~(18)~~ The student applies mathematical process standards to demonstrate~~s~~ an understanding for a postsecondary plan. The student is expected to:

(A)   understand educational, military, and current job opportunities; ~~and~~

(B)   research and align interests and skills with potential careers and postsecondary education to assure a life strategy that will produce employment the student enjoys with a desired standard of living;

(B)   ~~create a postsecondary plan that includes topics such as application requirements; testing requirements; certification requirements; associated deadlines; associated costs, including living expenses; job prospects and opportunities; beginning earnings; expected future earnings and resumes and cover letters.~~

(C)   calculate the total funding required to complete a desired postsecondary education program;

(D)   identify different resources for acquiring funding for education after high school such as personal savings, employment, Free Application for Federal Student Aid (FAFSA), Texas Application for Federal Student Aid, Expected Family Contribution, Pell Grants, work-study programs, student loans, Individual Development Accounts, scholarships such as the Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT®), and internships to reduce the projected cost of education;

(E)   identify benefits and potential savings for students investing in themselves such as taking Advanced Placement and dual credit classes; and

(F)   explain the correlation between postsecondary education and standard of living.