

Mathematic Standards Matrix
ACCOUNTING SERVICES
September 25, 2008

ACCOUNTING SERVICES Standards/Measurement Criteria		MATH STANDARDS Strand #, Concept #, Grade Level Performance Objective # (<i>College Work Readiness Level Standards are italicized</i>)
STANDARD 1.0 – DEMONSTRATE BUSINESS AND FINANCIAL MANAGEMENT PRACTICES NEEDED FOR ENTREPRENEURS		
1.1	Review a budget based on an accounting enterprise's business plan	Strand 2: Data Analysis, Probability, and Discrete Mathematics, Concept 1: Data Analysis (Statistics), High School Level PO 1: Draw inferences about data sets from lists, tables, matrices, and plots. PO 4: Make inferences by comparing data sets using one or more summary statistics. PO 6: Evaluate the reasonableness of conclusions drawn from data analysis.
1.2	Review an income statement for an accounting enterprise	Strand 2: Data Analysis, Probability, and Discrete Mathematics, Concept 1: Data Analysis (Statistics), High School Level PO 1: Draw inferences about data sets from lists, tables, matrices, and plots. PO 4: Make inferences by comparing data sets using one or more summary statistics. PO 6: Evaluate the reasonableness of conclusions drawn from data analysis.
1.3	Review a balance sheet for an accounting enterprise	Strand 2: Data Analysis, Probability, and Discrete Mathematics, Concept 1: Data Analysis (Statistics), High School Level PO 1: Draw inferences about data sets from lists, tables, matrices, and plots. PO 4: Make inferences by comparing data sets using one or more summary statistics. PO 6: Evaluate the reasonableness of conclusions drawn from data analysis.
1.4	Interpret financial information for decision making and planning	See Note
1.5	Monitor and adjust a business operation based on financial performance	See Note
1.6	Compare foreign currencies and determine how business affects exchange rates	See Note
1.7	Describe the impact of quality business communications on the success of an accounting organization	See Note
1.8	Manage customer relations	See Note
1.9	Review insurance needs for a business and its relationship to all aspects of the business	See Note

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STANDARD 2.0 – DEMONSTRATE THE STEPS OF THE ACCOUNTING CYCLE		
2.1	Explain the purpose of the accounting cycle	See Note
2.2	Define terminology related to the accounting cycle	See Note
2.3	Demonstrate the fundamental accounting equation	See Note
2.4	Classify items as assets, liabilities, or owner's equity	See Note
2.5	Determine how owner's equity is affected by revenue, expense, and drawing accounts	See Note
2.6	Practice the double-entry system of accounting	See Note
2.7	Analyze the effect that business transactions have on the basic accounting equation using source documents	See Note
2.8	Develop the process of journalizing business transactions	See Note
2.9	Explain the relationship of the journal to the ledger	See Note
2.10	Post transactions from the journal to the ledger	See Note

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2.11	Prepare the trial balance including determining necessary adjustments	See Note
2.12	Prepare financial statements	See Note
2.13	Explain the purposes of the closing process	See Note
2.14	Prepare a post-closing trial balance	See Note
STANDARD 3.0 – DETERMINE PAYROLL		
3.1	Prepare payroll records using manual and computerized systems	See Note
3.2	Calculate earnings for various methods of payment	See Note
3.3	Compute deductions to determine net pay	See Note
3.4	Calculate employer's payroll taxes	See Note
3.5	Prepare federal, state, and local payroll reports	See Note

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STANDARD 4.0 – GENERATE PROCEDURES FOR CASH CONTROL		
4.1	Define petty cash	See Note
4.2	Complete check stubs or register and checks manually and use general ledger accounting software	See Note
4.3	Enter appropriate data on a deposit slip	See Note
4.4	Reconcile a bank statement	See Note
4.5	Establish procedures for managing and reconciling petty cash manually and electronically	See Note
STANDARD 5.0 – DETERMINE PROCEDURES FOR ACCOUNTS RECEIVABLE AND ACCOUNTS PAYABLE		
5.1	Establish and maintain the accounts receivable subsidiary ledger	See Note
5.2	Process sales orders and invoices	See Note
5.3	Process customer payments	See Note

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5.4	Analyze accounts receivable using an aging schedule to determine doubtful accounts	<p>Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.</p> <p>Strand 1: Number and Operations, Concept 3: Estimation, <i>College Work Readiness Level</i> <i>PO 1: Recognize the limitations of estimations by assessing the amount of error resulting from estimation and determining whether the error is within acceptable tolerance limits.</i></p> <p>Strand 2: Data Analysis, Probability, and Discrete Mathematics, Concept 1: Data Analysis (Statistics), High School Level PO 1: Draw inferences about data sets from lists, tables, matrices, and plots. PO 2: Organize collected data into an appropriate graphical representation with or without technology. PO 3: Display data, including paired data, as lists, tables, matrices, and plots with or without technology; make predictions and observations about patterns or departures from patterns.</p>
5.5	Establish and maintain the accounts payable subsidiary ledger	See Note
5.6	Maintain vendor files	See Note
5.7	Process invoices for payment	See Note
5.8	Process accounts payable checks	See Note
5.9	Explain the relationship of subsidiary ledgers	See Note

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STANDARD 6.0 – VALUATE ASSETS, LIABILITIES, AND OWNER’S EQUITY		
6.1	Define terminology related to assets and liabilities	See Note
6.2	Explain the purposes of notes receivable	See Note
6.3	Maintain inventory records	See Note
6.4	Apply inventory costing procedures, such as FIFO, LIFO and weighted average	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution. Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.
6.5	Compute the cost basis of assets	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution. Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.
6.6	Calculate depreciations	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution. Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.
6.7	Identify procedures to protect assets from loss, waste, theft, forgery and embezzlement	See Note
6.8	Determine current and long-term liabilities and assets	See Note

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6.9	Apply the revenue realization and matching principles to an income statement for service and merchandising businesses	See Note
6.10	Determine cost of goods sold and gross profit for a merchandising and manufacturing businesses	<p>Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.</p> <p>Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.</p>

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STANDARD 7.0 – APPRAISE FORMS OF BUSINESS OWNERSHIP	
7.1	Ascertain the source and the importance of following the Generally Accepted Accounting Principles (GAAP)
7.2	Differentiate between taxation at the personal and business level
7.3	Explain the purpose of the capital and drawing accounts for a sole proprietorship and partnership
7.4	Apply appropriate accounting techniques to account for investments and withdrawals by owners
7.5	Explain the purpose of the following accounts: common stock, preferred stock, paid-in capital, retained earnings, and dividends for a corporation
7.6	Identify the three basic types of business activities—operating, investing, and financing
7.7	Identify not-for-profit and governmental organizations accounting requirements

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STANDARD 8.0 – ASSESS THE FINANCIAL PERFORMANCE OF A BUSINESS		
8.1	Analyze the income statement and balance sheet of a business	See Note
8.2	Analyze current and long-term assets including their impact on the financial statements	See Note
8.3	Analyze current and long-term liabilities including their impact on the financial statements	See Note
8.4	Analyze the statement of cash flow and the effect on healthy performance	See Note
8.5	Calculate merchandise inventory turnover ratios	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution. Strand 3: Patterns, Algebra, and Functions, Concept 4: Analysis of Change, <i>College Work Readiness Level</i> <i>PO 1: Analyze and describe how a change in an independent variable leads to a change in a dependent variable.</i>

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8.6	Determine the effect of changes in sales volume, unit costs and unit sales process on net income	<p>Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.</p> <p>Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 1: Sketch and interpret a graph that models a given context, make connections between the graph and the context, and solve maximum and minimum problems using the graph. PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.</p> <p>Strand 3: Patterns, Algebra, and Functions, Concept 4: Analysis of Change, <i>College Work Readiness Level</i> <i>PO 1: Analyze and describe how a change in an independent variable leads to a change in a dependent variable.</i> <i>PO 3: Analyze change in various contexts by modeling and solving word problems using functions and equations.</i></p> <p>Strand 5: Structure and Logic, Concept 2: Logic, Reasoning, Problem Solving, and Proof, High School Level PO 1: Analyze a problem situation, determine the question(s) to be answered, organize given information, determine how to represent the problem, and identify implicit and explicit assumptions that have been made. PO 2: Solve problems by formulating one or more strategies, applying the strategies, verifying the solution(s), and communicating the reasoning used to obtain the solution(s). PO 3: Evaluate a solution for reasonableness and interpret the meaning of the solution in the context of the original problem. PO 4: Generalize a solution strategy for a single problem to a class of related problems; explain the role of generalizations in inductive and deductive reasoning. PO 5: Summarize and communicate mathematical ideas using formal and informal reasoning.</p> <p>Strand 5: Structure and Logic, Concept 2: Logic, Reasoning, Problem Solving, and Proof, <i>College Work Readiness Level</i> <i>PO 1: Use a variety of approaches (inductive and deductive reasoning, estimations, generalizations, formal and informal methods of proof) to analyze algorithms.</i> <i>PO 2: Solve problems by using theorems, formulating one or more strategies, applying the strategies, verifying the solution(s), and communicating the reasoning used to obtain the solution(s).</i> <i>PO 3: Evaluate a solution for reasonableness and interpret the meaning of the solution in the context of the original problem.</i> <i>PO 4: Generalize a solution strategy for a single problem to a class of related problems and explain the role of generalizations in inductive and deductive reasoning.</i> <i>PO 5: Summarize and communicate mathematical ideas using formal and informal reasoning.</i></p>

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STANDARD 9.0 – USE ACCOUNTING TECHNOLOGY IN MANAGING FINANCIAL INFORMATION		
9.1	Using spreadsheet software, organize, calculate and complete an accounting financial statement	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.
9.2	Make projections using “what if” statements	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution. Strand 3: Patterns, Algebra, and Functions, Concept 4: Analysis of Change, <i>College Work Readiness Level</i> <i>PO 3: Analyze change in various contexts by modeling and solving word problems using functions and equations.</i> Strand 5: Structure and Logic, Concept 1: Algorithms and Algorithmic Thinking, High School Level PO 1: Select an algorithm that explains a particular mathematical process; determine the purpose of a simple mathematical algorithm. PO 2: Analyze algorithms for validity and equivalence recognizing the purpose of the algorithm. Strand 5: Structure and Logic, Concept 1: Algorithms and Algorithmic Thinking, <i>College Work Readiness Level</i> <i>PO 1: Use a variety of approaches (inductive and deductive reasoning, estimations, generalizations, formal and informal methods of proof) to analyze algorithms.</i> Strand 5: Structure and Logic, Concept 2: Logic, Reasoning, Problem Solving and Proof, High School Level PO 3: Evaluate a solution for reasonableness and interpret the meaning of the solution in the context of the original problem. Strand 5: Structure and Logic, Concept 2: Logic, Reasoning, Problem Solving, and Proof, <i>College Work Readiness Level</i> <i>PO 3: Evaluate a solution for reasonableness and interpret the meaning of the solution in the context of the original problem.</i>
9.3	Use spreadsheet and/or accounting software to prepare charts and graphs useful in analyzing the financial condition of a business	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.

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STANDARD 10.0 – EXAMINE ETHICAL STANDARDS IN ACCOUNTING		
10.1	Differentiate between ethical and legal issues	See Note
10.2	Describe social responsibility in accounting	See Note
10.3	Explain the importance of high ethical standards in the preparation of financial statements	See Note
STANDARD 11.0 – EXPLORE ECONOMIC PRINCIPLES OF MANAGERIAL ACCOUNTING AND RELATED SERVICES PROFESSIONS		
11.1	Define the five management functions: planning, organizing, directing, staffing, and controlling	See Note
11.2	Define cost concepts and cost behavior	See Note
11.3	Explain the role of accounting as utilized in support of the five management functions and related decision making	See Note
11.4	Define the differences among service, merchandising and manufacturing businesses	See Note

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STANDARD 12.0 – EXPLORE ACCOUNTING AND RELATED SERVICES SYSTEMS THEORY AND PRACTICE		
12.1	Demonstrate basic research techniques to organize accounting records and information	See Note
12.2	Explain how work plans and budget information are used to allocate people and resources effectively	See Note
12.3	Explain how plans and budgets are revised to meet goals and objectives	See Note
12.4	Investigate merchandise inventory accounting principles that relate to budgetary decisions	Strand 3: Patterns, Algebra, and Functions, Concept 2: Functions and Relationships, High School Level PO 4: Use equations, graphs, tables, descriptions, or sets of ordered pairs to express a relationship between two variables.

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STANDARD 13 -- Analyze Business Financial Management Information		
13.1	Analyze short and long term budgetary plans	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.
13.2	Analyze financial data to produce accurate reports	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.
13.3	Compile transaction data to report financial information	Strand 1: Number and Operations, Concept 3: Estimation, High School Level PO 2: Use estimation to determine the reasonableness of a solution.
13.4	Use federal, state and local regulations to determine appropriate financial practices	See Notes
13.5	Examine a client's money management patterns including risk tolerance and financial goals	Strand 2: Data Analysis, Probability, and Discrete Mathematics, Concept 1: Data Analysis (Statistics), High School Level PO 1: Draw inferences about data sets from lists, tables, matrices, and plots. PO 2: Organize collected data into an appropriate graphical representation with or without technology. PO 3: Display data, including paired data, as lists, tables, matrices, and plots with or without technology; make predictions and observations about patterns or departures from patterns. PO 4: Make inferences by comparing data sets using one or more summary statistics. PO 6: Evaluate the reasonableness of conclusions drawn from data analysis. PO 7: Identify misrepresentations and distortions in displays of data and explain why they are misrepresentations or distortions.
13.6	Identify procedures and documents to create a financial plan	See Note

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