**Career-Technical Credit Transfer (CT)²**
**Accounting Career-Technical Assurance Guide (CTAG)**
**August 17, 2023**

## Introduction

The following programs/courses, indicated by a Career-Technical Articulation Number (CTAN), are eligible for transfer among Ohio's Public Secondary (CT)2 approved programs/courses and state institutions of higher education. This document presents the course in this CTAG:

1. CTBU010 Introduction to Financial Accounting
2. CTBU011 Introduction to Managerial Accounting

These CTANs identify the learning outcomes that are equivalent or common in introductory technical courses. For students to receive credit under these agreements, the career-technical programs and the state institutions of higher education must document that their course/program content matches the learning outcomes in the CTANs. In accordance with Ohio Revised Code 3333.162, industry standards and certifications provide documentation of student learning.

## Accessing Credit

Students that have met the requirements for credit for each CTAN will appear in the CTAV system that public colleges and universities access to award credit. Institutions must have the student's permission to officially post the CTAG to their transcript. Students can grant this permission as part of the WebXam. If a student did not grant permission as part of the WebXam, they will still need to confirm with colleges and universities that they want credit for the CTAG course.

## Institutional Approval

**Secondary:** Secondary institutions must have pathway approval from the Ohio Department of Education. Certificate of Affirmation assurances are now incorporated into the CTE-26 application process.
**Colleges/Universities:** Postsecondary institutions must submit course through CEMS for review and approval by a faculty panel.

| **CTBU010 Introduction to Financial Accounting** | **Credits: 3 Semester Hours** |
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**Course Description:** This is a course of study that introduces financial accounting and financial reporting for business entities.

**Requirements for Credit:**

- Successfully complete ODE secondary course **Financial Accounting (143005)** and earn a qualifying score on the corresponding End-of Course examination.
- Within 3 years after completing the approved secondary program, matriculate in an institution of higher education with an approved or comparable program**.**

**This course aligns to the TAG Introduction to Financial Accounting OBU010.**

**Learning Outcome Alignment**

All learning outcomes that are considered essential are marked with an asterisk.*

| **Post-Secondary Learning Outcomes The student will be able to:** | **Competencies in ODE Career Field Technical Content Standards** |
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| **1. Comprehend the broad role that accounting information plays in the economy*** <br><br> Supported by the following Body of Knowledge: <br> 1.00 The Role of Accounting in Society <br> 1.01 Financial information and resource allocation <br> 1.02 Accounting and the corporation <br> 1.03 Auditing and credibility in reporting <br> 1.04 Structure of the accounting profession <br> 1.05 Ethics, reputation, and legal liability in accounting* <br> 1.06 Types of business organizations | 1.1.2 Identify the scope of career opportunities and the requirements for education, training, certification, licensure, and experience. <br> 1.3.3 Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice). <br> 1.3.9 Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational, and professional ethical standards. <br> 2.1.4 Explain the role and function of accounting and finance and how they interact with other business activities. <br> 3.1.5 Describe the importance of maintaining confidentiality and security of customer information. <br> 4.6.1 Compare and contrast ethical challenges across industry sectors, global markets, nonprofit and for profit organizations and business activities. <br> 4.7.2 Describe the relationship between governance structures, ownership structures (e.g., corporation, privately owned, nonprofit, limited-liability companies) and organizational size and reach (e.g., microenterprise, middle-market, large corporate, multinational, global). <br> 4.7.3 Explain the roles and responsibilities of governing committees (e.g., board of Directors, Audit |

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| | and Finance Committees, Risk committees), strategies used to fulfill these responsibilities and the impact on strategic planning and management functions.<br>9.1.1 Explain the role and function of profit and taxes and how they differ depending on business structure.<br>9.1.2 Explain how accounting standards impact business financial performance.<br>9.1.5 Apply cost-benefit analysis to business decisions (e.g., total revenue, marginal revenue, output, profit).<br>9.6.2 Determine the level and type of financial statement verification that is required to achieve business objectives and comply with regulatory requirements (compilation, review or audit).<br>9.6.14 Identify the requirements associated with planning, conducting, supervising, and reporting the results of internal and external audits in accordance with auditing and attestation standards and state regulations.<br>9.6.15 Describe the importance of complying with financial reporting confidentiality and non-disclosure requirements. |
| **2. Comprehend the nature, purposes and use of basic financial statements by all stakeholders***<br><br>Supported by the following Body of Knowledge:<br>2.00 Accounting Standards and Regulation Structures<br>2.01 Financial statements and generally accepted accounting principles*<br>2.02 The FASB and financial accounting standards<br>2.03 Introduction of International Financial Reporting Standards (IFRS)<br>2.04 Government oversight of accounting and auditing<br>3.00 The Basic Financial Statements<br>3.01 Income statement*<br>3.02 Statement of stockholders' equity*<br>3.03 Balance sheet*<br>3.04 Statement of cash flows* | 9.4.1 Describe the impact of financial reporting and internal control regulations on control requirements (e.g., Sarbanes-Oxley Act of 2002, Dodd-Frank Wall Street Reform Act, Model Audit Rule, Government Accountability Standards).<br>9.5.1 Describe how basic accounting principles (e.g., Generally Accepted Accounting Principles [GAAP]) and requirements of accounting standards setting bodies (e.g., Financial Accounting Standards Board [FASB]) impact the accounting and auditing process.<br>9.6.3 Identify the regulatory bodies that set standards for business reporting (e.g. Financial Accounting Standards Board [FASB], Securities and Exchange Commission [SEC], Public Company Accounting Oversight Board [PCAOB], International Financial Reporting Standards [IFRS], Small- and Medium-Sized Entities [SME] Financial Reporting Framework, Governmental Accounting Standards Board [GASB]).<br>9.6.9 Describe the purpose of consolidated financial reports.<br>9.6.11 Analyze financial statements and accounts to prepare supplemental schedules and reports that comply with reporting requirements (e.g., notes to financial statements, management discussion and analysis, sustainability disclosures, earnings per share disclosure).<br>9.6.12 Describe the purpose and information reported on an Income Statement, Statement of Stockholders' Equity, Balance Sheet & Statement of Cash Flows.<br>9.6.14 Identify the requirements associated with planning, conducting, supervising, and reporting the results of internal and external audits in accordance with auditing and attestation standards and state regulations. |

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| 3.05 Other elements of the corporate annual report<br>12.00 The Annual Report<br>12.01 Accounting elements of annual report<br>12.02 Management elements of annual report<br>12.03 SEC reporting requirements | |
| **3. Use the language of accounting and apply the important concepts on which financial reporting is based***<br><br>Supported by the following Body of Knowledge:<br>6.00 Revenues and Receivables<br>6.01 Accounting for service and merchandise revenues*<br>6.02 Reporting customer receivables - allowances and write-offs*<br>7.00 Merchandising and Inventory<br>7.01 Accounting for the cost of purchases and sales of merchandise*<br>7.02 Inventory records (perpetual, periodic)<br>7.03 Inventory accounting methods (FIFO, LIFO, etc.)*<br>8.00 Working Capital<br>8.01 Classification of current assets and liabilities*<br>8.02 Accounting for current liabilities<br>8.03 Management of working capital<br>8.04 Measures of working capital use (current ratio, etc.)<br>8.05 General internal control procedures*<br>9.00 Long-Lived Assets<br>9.01 Acquisition cost*<br>9.02 Depreciation accounting and | 7.3.13 Conduct inventory valuation (e.g., First In First Out, Last In First Out, average cost).<br>9.1.4 Analyze business performance utilizing financial ratios in the areas of liquidity, profitability, asset management, debt management and market valuation.<br>9.4.2 Assess and identify the risk of errors and fraud in transactions and accounts (e.g., unusual activity, abnormal variations).<br>9.4.3 Assess the effectiveness of internal controls.<br>9.4.4 Develop and implement internal control procedures (e.g., cash controls, inventory controls, payroll controls, capital asset controls, data protection, personal information controls).<br>9.4.5 Inspect and ensure the continued functioning of internal controls.<br>9.5.7 Classify asset and liability accounts into current and non-current categories.<br>9.5.8 Manage accounting processes in accordance with accounting standards and organizational policies and procedures (e.g., cash, accounts receivable, accounts payable, inventory usage valuation, payroll expenses and benefits, long-term assets, intangible assets).<br>9.5.10 Perform procedures to validate accuracy of accounting data, to identify errors and to make corrections (e.g., review trial balance, reconcile cash, proof ledgers, count inventory).<br>9.5.14 Calculate the value of inventory and cost of goods sold using the following inventory methods: FIFO, LIFO, Average Cost.<br>9.5.15 Determine the impact on inventory values when the Lower of Cost or Market rule is applied.<br>9.5.16 Record transactions for customer receivables, including entries to write-off uncollectible accounts using the allowance method.<br>9.5.17 Identify the characteristics of a liability and demonstrate the accounting for long-term debt (e.g. installment loans or corporate bonds).<br>9.5.18 Record transactions for both service and merchandising businesses.<br>9.5.19 Record purchase and sales transactions that include transportation costs, returns, discount terms and sales tax.<br>9.5.20 Identify the difference between a periodic and a perpetual inventory system.<br>9.6.4 Account for partnership activity and allocation of partnership profits and losses in |

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| depreciation methods*<br>9.03 Accounting for disposition of assets<br>9.04 Accounting for natural resources<br>9.05 Intangible assets<br>9.06 Intangible assets<br>9.07 Circumstances that create goodwill in accounting<br>10.00 Long-Term Debt Financing<br>10.01 The nature of liabilities*<br>10.02 Accounting for long-term debt*<br>10.03 Effective interest or straight-line method for discount or premium amortization<br>10.04 Time value of money<br>11.00 Equity Financing<br>11.01 Debt vs. equity<br>11.02 Types of equity (preferred, common, treasury)<br>11.03 Accounting for stock (issuance, dividends)*<br>11.04 Book value vs. market value | accordance with partnership agreements.<br>9.6.5 Record corporate equity transactions including preferred and common stock issuance, dividends and treasury stock repurchases.<br>9.6.6 Explain why long-term assets are depreciated.<br>9.6.7 Record long-term transactions (e.g., acquisitions, disposals, depreciation).<br>9.6.8 Calculate depreciation using straight-line & accelerated methods.<br>9.10.7 Assess the impact of capital transactions on the cost of debt, cost of equity, cost of capital and minimum capital requirements. |
| **4. Analyze the impact of basic business transactions on the financial statements of a business corporation***<br><br>Supported by the following Body of Knowledge:<br>4.00 Analysis of Business Activity<br>4.01 The basic accounting equation*<br>4.02 Income measurement and accrual accounting*<br>4.03 Impact of simple transactions on the accounting equation*<br>4.04 Debits and credits<br>4.05 Accounting records (journals, ledgers, | 1.9.8 Identify income sources and expenditures.<br>9.1.3 Distinguish between cash and accrual methods of accounting.<br>9.5.2 Explain the accounting concepts that form the basis for accounting systems that comply with GAAP (e.g., accounting cycle, accounting method, accounting equation).<br>9.5.4 Identify the components of the accounting equation and identify how business transactions impact the equation and financial statements.<br>9.5.5 Classify and record standard business transactions (e.g., cash, accounts receivable, accounts payable, inventory, plant assets) to the general ledger using journals and reconciliation rules to reduce errors.<br>9.5.8 Manage accounting processes in accordance with accounting standards and organizational policies and procedures (e.g., cash, accounts receivable, accounts payable, inventory usage valuation, payroll expenses and benefits, long-term assets, intangible assets).<br>9.5.10 Perform procedures to validate accuracy of accounting data, to identify errors and to make |

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| computer systems) | corrections (e.g., review trial balance, reconcile cash, proof ledgers, count inventory).<br>9.5.12 Perform automated accounting functions using available hardware and software.<br>9.6.1 Explain the importance of accurately reporting a business' financial position and activities, the types of systems that are used for that purpose (i.e., tax systems, financial, cost systems) and the linkage to operational systems (i.e., enterprise systems). |
| **5. Compile basic financial statements for a simple corporate business entity***<br><br>Supported by the following Body of Knowledge:<br>5.00 Preparation of Corporate Financial Statements<br>5.01 The accounting cycle (trial balances, adjustments, closing)*<br>5.02 Income statement*<br>5.03 Statement of stockholders' equity*<br>5.04 Balance sheet*<br>5.05 Statement of cash flows | 1.9.1 Create, analyze, and interpret financial documents (e.g. budgets, income statements).<br>9.5.6 Record adjusting entries, closing entries and post-closing correcting and reversing entries to general ledger accounts using journals (e.g., depreciation, allowances, deferrals & accruals).<br>9.5.9 Summarize accounting data in trial balances, worksheets, and financial statements.<br>9.6.13 Prepare financial statements including income statement, statement of stockholders equity and balance sheet. |
| **6. Evaluate the financial performance of a simple corporation on the basis of its financial statements***<br><br>Supported by the following Body of Knowledge:<br>13.00 Analysis of Financial Statements<br>13.01 Objectives of financial statement analysis<br>13.02 Sources of company information<br>13.03 Financial ratios*<br>13.04 Data Analytics to analyze financial data | 1.9.1 Create, analyze, and interpret financial documents (e.g. budgets, income statements).<br>9.1.6 Calculate and interpret financial ratios.<br>9.1.4 Analyze business performance utilizing financial ratios in the areas of liquidity, profitability, asset management, debt management and market valuation.<br>9.6.9 Describe the purpose of consolidated financial reports. |

| **CTBU011 Introduction to Managerial Accounting** | **Credits: 3 Semester Hours** |
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**Course Description:** This is a course of study that introduces managerial accounting for business entities.

**Requirements for Credit:**

- Successfully complete ODE secondary course **Managerial Accounting (143015)** and earn a qualifying score on the corresponding End-of Course examination.
- Within 3 years after completing the approved secondary program, matriculate in an institution of higher education with an approved or comparable program**.**

**This course aligns to the TAG Introduction to Managerial Accounting OBU011.**

**Learning Outcome Alignment**

All learning outcomes that are considered essential are marked with an asterisk.*

| **Post-Secondary Learning Outcomes The student will be able to:** | **Competencies in ODE Career Field Technical Content Standards** |
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| 1**. Recognize the differing information needs of internal management and external users of financial information*** <br><br> Supported by the following Body of Knowledge: <br> 1.00 Managerial Accounting and Business Organizations <br> 1.01 Distinction between financial accounting and managerial accounting* <br> 1.02 Information needs of internal users <br> 1.03 Cost benefit principle for information and reporting <br> 1.04 Ethics and integrity in today's organizations* | 1.3.3 Use ethical character traits consistent with workplace standards (e.g., honesty, personal integrity, compassion, justice). <br> 1.3.9 Identify potential conflicts of interest (e.g., personal gain, project bidding) between personal, organizational, and professional ethical standards. <br> 1.9.1 Create, analyze, and interpret financial documents (e.g., budgets, income statements). <br> 4.6.2 Compare and contrast ethical challenges across industry sectors, global markets, nonprofit and for-profit organizations, and business activities. <br> 9.1.5 Apply cost-benefit analysis to business decisions (e.g., total revenue, marginal revenue, output, profit). <br> 9.7.1. Distinguish between the characteristics of information provided by financial and managerial accounting and who are the primary users of financial and managerial accounting reports. |

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| 2. **Define and describe the basic terminology and concepts of managerial accounting.***<br><br>Supported by the following Body of Knowledge:<br>2.00 Cost Concepts<br>2.01 Costs and cost drivers*<br>2.02 Variable, fixed and mixed costs*<br>2.03 Direct and Indirect costs*<br>2.04 Cost function and cost behavior*<br>2.05 Prime and conversion costs<br>2.06 Product and period cost<br>2.07 Prime and conversion costs<br>4.00 Cost Behavior<br>4.01 Methods of measuring cost functions (regression, high-low, etc.)<br>4.02 Use of cost equations to express and predict costs*<br>4.03 The value chain | 9.6.16 Classify costs as fixed, variable or mixed costs, and identify how each cost responds to changes in volume.<br>9.7.12 Improve budgeting and forecasting accuracy by using cost equations (such as high-low or regression analysis) to express and predict costs.<br>9.7.13 Classify costs as direct materials, direct labor or overhead. Identify prime costs and conversion costs.<br>9.7.14 Classify costs as product costs or period costs.<br>9.7.16 Classify costs as direct or indirect in relation to a specific cost object (such as a product, department or customer).<br>9.7.24 Identify the events or activities that drive costs. |
| **3 Apply managerial accounting techniques to determine the cost of products and services.***<br><br>Supported by the following Body of Knowledge:<br>6.00 Cost Decisions<br>6.01 Relevant and irrelevant costs in decision contexts*<br>6.02 Special Order Decisions<br>6.03 Adding or dropping products<br>6.04 Using limited resources<br>6.05 Cost-plus pricing and target costing<br>7.00 Accounting for Overhead Costs<br>7.01 Overhead rates*<br>7.02 Accounting for manufacturing | 7.3.2 Identify the advantages and disadvantages of Just-in-Time(JIT) inventory processes.<br>7.3.4 Describe inventory systems and controls to efficiently monitor, safeguard and replenish inventory (e.g., JIT, Lean, FIFO, LIFO, inventory counts) based on usage levels, lead times and forecasts.<br>9.7.2 Track and allocate costs to a variety of cost objects (e.g., products, departments, divisions, activities).<br>9.7.3 Calculate Cost of Goods Manufactured and Cost of Goods Sold using job order, process and activity-based costing systems.<br>9.7.5 Allocate service department costs and corporate support costs.<br>9.7.15 Track costs as they move through various stages of production from raw materials to work-in-process to finished goods.<br>9.7.17 Assign direct and indirect costs to products in a manufacturing system using job order costing.<br>9.7.18 Compute an overhead rate and trace overhead costs through a manufacturing cost system.<br>9.7.19 Allocate indirect costs to products using Activity Based Costing (ABC). |

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| overhead*<br>7.03 Variable and absorption costing<br>7.04 Overhead variance analysis<br>8.00 Costing Systems<br>8.01 Manufacturing inventories<br>8.02 Cost of Goods Manufactured*<br>8.03 Distinction between job-order and process systems*<br>8.04 Job Costing and accounting for manufacturing costs*<br>8.05 Activity-Based Costing (ABC) Systems<br>8.06 Process costing | |
| **4. Explain and apply managerial accounting techniques for the purposes of planning, controlling, decision making and performance evaluation.***<br><br>Supported by the following Body of Knowledge:<br>3.00 Cost-Volume-Profit<br>3.01 Contribution margin and contribution margin ratio*<br>3.02 Use cost-volume-profit analysis to find break-even points and target profit volumes*<br>3.03 Sales mix analysis<br>5.00 Cost Decisions<br>5.01 Relevant and irrelevant costs in decision contexts*<br>5.02 Special Order Decisions<br>5.03 Adding or dropping products<br>5.04 Using limited resources<br>5.05 Cost-plus pricing and target costing<br>5.06 Make or Buy decisions<br>5.07 Processing joint products | 1.9.2 Identify tax obligations.<br>1.9.8 Identify income sources and expenditures.<br>1.9.10 Identify the role of depreciation in tax planning and liability.<br>2.2.5 Distinguish between gross and net profit, identify factors affecting a business' profit (e.g., demand, chance, pricing, expenses, costs, the economy), and recognize controllable and non-controllable expenses.<br>6.1.5 Explain the role of management functions (e.g., planning, organizing, staffing, leading, controlling), and how they impact business activities.<br>7.2.10 Evaluate whether to make or buy products.<br>9.1.7 Identify the information needed to calculate existing and forecasted sales.<br>9.1.10 Explain the impact of net present value and opportunity costs on capital investment decisions.<br>9.3.1 Calculate internal performance measures (e.g., product-line profitability, business unit profitability, return on investments, residual income, measures of working capital).<br>9.7.4 Compute contribution margin and contribution margin ratio. Use these calculations to compute break-even and prepare cost, volume and profit analysis.<br>9.7.6 Apply cost and revenue data for short-term and long-term decision-making, strategic planning, and forecasting (e.g., adding or dropping products, using limited resources, special order decisions, and equipment replacement decisions).<br>9.7.7 Project future revenues and expenses for budgeting and forecasting purposes.<br>9.7.8 Interpret pro-forma financial statements (e.g., balance sheet, income statement, cash flow statement) to determine impact of a proposed action. |

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| 5.08 Influence of performance measures on production decisions<br>10.00 Performance Evaluation<br>10.01 Centralized vs. decentralized organizations<br>10.02 Responsibility accounting - cost centers, profit centers, investment centers<br>10.03 Goal congruence, managerial effort and motivation<br>11.00 Flexible Budgets and Variance Analysis<br>11.01 Static and Flexible Budgets*<br>11.02 Standard costs and prime cost variance analysis*<br>11.03 Standard costs and overhead variance analysis<br>11.04 Standard cost journal entries<br>12.00 Performance Evaluation<br>12.01 Centralized vs. decentralized organizations<br>12.02 Responsibility accounting - cost centers, profit centers, investment centers<br>12.03 Goal congruence, managerial effort and motivation<br>12.04 Performance measurement - residual income and return on investment*<br>12.05 Non-financial performance measures and the balanced scorecard<br>12.06 Transfer prices | 9.7.9 Develop budgeting process (e.g., top-down, bottom-up, incremental) to support business objectives, and prepare static or flexible budgets as appropriate.<br>9.7.10 Prepare budget and forecast reports (e.g., overhead, production, operating, capital expenditure) and budgeted operating statements using preliminary budget detail.<br>9.7.20 Use standard costs to compute Direct Materials and Direct Labor variances.<br>9.7.21 Distinguish between revenues and costs relevant to business decisions (e.g., opportunity costs) and irrelevant costs (e.g., sunk costs).<br>9.7.22 Identify business units as cost, revenue, profit or investment centers. Prepare reports or use the appropriate measures to analyze the performance of each type of business unit.<br>9.7.23 Analyze the performance of cost, revenue, profit and investment centers.<br>9.9.1 Prepare short-term, medium-term, and long-term cash budgets to determine a company's cash requirements.<br>9.9.9 Use variance analysis to correct errors in forecasts and budgets.<br>9.10.1 Select technique to analyze proposed capital investments based on advantages, disadvantages, and available information (e.g., payback, net present value, internal rate of return).<br>9.10.2 Select appropriate technique to evaluate and prioritize business project funding (e.g., discounted cash flows, marginal analysis, cost-benefit analysis).<br>9.10.3 Evaluate the impact of capital expenditures budgets on liquidity, competitiveness, solvency, and goal-setting. |

**Requirements and Credit Conditions:**

1. The receiving institution must have a comparable program, major, or course that has been approved through submission to the Ohio Department of Higher Education (CT) [2] approval process for the CTAN listed in this document.
2. Credits apply to courses in the specified technical area at Ohio's public institutions of higher education, if the institution offers courses in the specific technical area. In the absence of an equivalent course, and when the institution offers the technical program, the receiving institution will guarantee to grant and apply an equivalent credit value of the Career-Technical Articulation Number (CTAN) toward the technical requirements of the specific degree/certificate program.
3. A career-technical student seeking credit under the terms of this CTAG must apply and be accepted to the college within three years of completing a career-technical course, unless otherwise noted.
4. A career-technical student who meets all eligibility criteria will receive the credit hour value for the comparable course as offered at the receiving state institution of higher education.
5. The admission requirements of individual institutions and/or programs are unaffected by the implementation of (CT)² outcomes.
6. The transfer of credit, through this CTAG, will not exempt a student from the residency requirements at the receiving institution.

**Accounting Panel Participants**
**2021-2023**

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| Donna Chadwick | Sinclair Community College | SCTAI Lead Panel Expert |
| Donna Von Deylen | Cincinnati State Technical and Community College | SCTAI Panel Expert |
| Robert Adkins | Clark State Community College | SCTAI Panel Expert |
| Gayle Mackay | Southern State Community College | SCTAI Panel Expert |
| Martin Blaine | Columbus State Community College | SCTAI Panel Expert |
| Eric J. Marinich | Miami University | SCTAI Panel Expert |
| Marc Smith | The Ohio State University | SCTAI Panel Expert |
| David Stott | Ohio University | SCTAI Panel Expert |
| | | |
| Nikki Wearly | Ohio Department of Higher Education | Senior Director, SCTAI |
| Lisa Holstrom | Ohio Department of Higher Education | Senior Associate Director, SCTAI |