

Colorado BMEF CTE Course – Scope and Sequence

Course Name	Project Management in Organizations	Course Details	Credits = .5 (Semester) Level 4		
		Course = 0.50 Carnegie Unit Credit			
Course Description	Investigates the concepts and applicability of project management within organizations. It examines the unique nature of the project management structure including its emphasis on integrated decision making throughout a lifecycle of a product from the planning, implementing, monitoring, and controlling phases. Emphasis is on the processes of initiating, planning, executing, controlling, and closing activities of project management.				
Note	This is a suggested scope and sequence for the course content. The content will work with any textbook or instructional resource. If locally adapted, make sure all course competencies are covered. This course aligns to the CCNS (MAN2041). Please contact your local community college partner for credit options. May also align with CAPM industry certification				
SCED Identification # 12099		Schedule calculation based on 60 calendar days of a 90-day semester. Scope and sequence allows for additional time for guest speakers, student presentations, field trips, remediation, or other content topics.			
All courses taught in an approved CTE program must include Essential Skills embedded into the course content. The Essential Skills Framework for this course can be found at https://www.cde.state.co.us/standardsandinstruction/essentialskills					
Instructional Unit Topic	Suggested Length of Instruction	CTE or Academic Standard Alignment	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration
Unit I: Project Management Foundational Concepts Definitions, project life cycle, organizational structures (functional, matrix, projectized), role of the project manager, stakeholder identification	1 week	NBEA Management Standards — Operations Mgmt, PM.01: Explain the role of project management in organizational structures	Define a project and distinguish it from ongoing operations Identify the five process groups (initiating, planning, executing, monitoring/controlling, closing) Identify stakeholders and PM organizational structures	Outcome 1: Students will define a project and its elements with 80% accuracy on a foundational concepts quiz/case analysis identifying project characteristics, life cycle phases, and stakeholder roles	FBLA: Business Management, Organizational Leadership, Public Administration & Management, Project Management DECA: Principles of Business

					Management and Administration, Entrepreneurship Series
Unit II: Scope Management Project goals/objectives, preliminary project plan, Work Breakdown Structure (WBS), scope statement, scope verification/change control	2 weeks	NBEA Management Standards — Operations Mgmt, PM.02: Develop project goals and a Work Breakdown Structure as the foundation for project planning	Produce SMART project goals Construct a multi-level WBS decomposing deliverables into work packages Draft a preliminary project plan/scope statement	Outcome 2 (part): Students will produce a complete WBS and preliminary project plan for an assigned case scenario, evaluated via rubric for completeness, logical decomposition, and alignment with stated project goals (≥85% rubric score)	FBLA: Project Management, Business Plan, Entrepreneurship, Business Management DECA: Project Management Events, Operations Research Events, Independent Business Plan / Start-Up Business Plan, Business Management & Administration Team Decision Making (BTDM)
Unit III: Time Management & Scheduling / Network Diagrams Activity sequencing, precedence/successor relationships, Gantt charts, network diagramming techniques	3 weeks	NBEA Management Standards — Operations Mgmt, PM.03: Apply scheduling tools and network diagramming techniques to sequence project activities and determine the critical path	Construct an activity schedule with precedence/successor relationships Build a network diagram (AON) Calculate the critical path, slack/float, and total project duration using CPM/PERT	Outcome 2 (part) & Outcome 3: Students will illustrate creation of a complete project schedule, including a network diagram with correctly identified critical path, with 90% calculation accuracy on a scheduling project/exam **Outcome 4:** Students will discuss network diagram techniques (AOA, AON, PERT)	FBLA: Project Management, Management Information Systems, Supply Chain Management, Business Management

(AOA/AON), Critical Path Method (CPM), PERT, schedule compression				and their appropriate application via written comparison assignment	DECA: Project Management Events, Operations Research Events, Business Management & Administration Team Decision Making (BTDM)
Unit IV: Cost Management & The Triple Constraint Budget development (top-down/bottom-up), cost estimating techniques, cost baseline, cost control methods, Earned Value Management (EVM), interaction of scope-time-cost (triple constraint)	3 weeks	NBEA Management Standards — Operations Mgmt, PM.04: Construct project budgets and apply cost control and earned value techniques to monitor financial performance; PM.05: Analyze the interrelationship of scope, time, and cost (triple constraint)	Construct a detailed project budget from a WBS Apply cost control techniques (variance analysis, cost baselines) Calculate EVM metrics (PV, EV, AC, CV, SV, CPI, SPI, EAC) Explain triple constraint trade-off decisions	Outcome 5: Students will construct an accurate project budget for an assigned project, evaluated via rubric (≥85%) **Outcome 6:** Students will explain cost control methods through a written analysis scoring ≥80% on a content rubric **Outcome 7:** Students will calculate a project's earned value metrics (CPI, SPI, EAC) with 90% accuracy and explain their significance in a written/oral summary to a "project team"	FBLA: Project Management, Accounting I / Accounting II, Personal Finance, Business Management DECA: Business Finance Series (BFS), Accounting Applications Series (ACT), Financial Analysis Team Decision Making (FATDM), Operations Research Events, Project Management Events
Unit V: Quality Management Quality planning vs. quality control vs. quality assurance, quality metrics,	2 weeks	NBEA Management Standards — Operations Mgmt, PM.06: Apply quality management metrics and control tools to ensure deliverables meet project scope and requirements	Differentiate quality planning, assurance, and control Apply quality control tools (control charts, Pareto charts, cause-and-effect diagrams) to a project scenario	Outcome 8: Students will analyze project quality using at least two quality control tools/metrics applied to a case-study deliverable, with written justification of whether the deliverable meets scope	FBLA: Project Management, Business Management, Supply Chain Management

control charts, Pareto analysis, cause-and-effect (fishbone) diagrams, ensuring deliverables meet scope/requirements			Evaluate whether deliverables meet defined acceptance criteria	requirements, scored via rubric (≥80%)	DECA: Operations Research Events, Project Management Events, Entrepreneurship Series
Unit VI: Risk Management Risk identification, qualitative/quantitative risk analysis, probability and impact assessment, risk register, risk response strategies (avoid, transfer, mitigate, accept)	2 weeks	NBEA Management Standards — Operations Mgmt, PM.07: Identify, analyze, and develop mitigation strategies for project risks and uncertainties	Identify project risks Assess probability and impact (qualitative/quantitative analysis) Construct a risk register Develop mitigation, avoidance, transfer, and acceptance strategies	Outcome 9: Students will illustrate at least four risk types/categories, assess their probability/impact, and propose appropriate mitigation strategies for an assigned project scenario, evaluated via risk register rubric (≥85%)	FBLA: Project Management, Business Law, Business Ethics, Business Management DECA: Business Law and Ethics Team Decision Making, Operations Research Events, Project Management Events
Unit VII: Procurement Management & Project Closing Procurement planning, types of contracts (fixed-price, cost-reimbursable, time & materials), make-or-buy decisions, vendor selection, contract administration, project closeout/lessons learned	2 weeks	NBEA Management Standards — Operations Mgmt, PM.08: Explain procurement processes and contract types used to acquire project resources; PM.09: Conduct project closeout activities including lessons learned	Define procurement management processes (plan, conduct, control, close procurements) Compare contract types (FFP, CPFF, T&M) and their risk allocation; Identify make-or-buy criteria Conduct a project closeout/lessons-learned review	Outcome 10: Students will explain project procurement standards and associate at least three contract types with appropriate project scenarios, scoring 80% or higher on a procurement assessment, AND will demonstrate synthesis of all course outcomes through a comprehensive capstone project plan covering initiation through closure	FBLA: Project Management, Supply Chain Management, Business Law, Public Administration & Management, Business Management DECA:



					Business Law and Ethics Team Decision Making, Operations Research Events, Project Management Events
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Capstone/Integrated Assessment

Throughout the course, students develop a comprehensive project plan (a running project applied unit-by-unit) that integrates Outcomes 1–10 into a single deliverable: project charter, WBS, schedule/network diagram, budget with EVM analysis, quality plan, risk register, and procurement/closeout plan. This capstone serves as the summative measurement of course outcomes and doubles as a portfolio piece suitable for DECA's prepared/written events (e.g., Project Management Events, Business Operations Research, Entrepreneurship Operations Research) and FBLA's Project Management objective test preparation or Business Plan/Management Information Systems events.

Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)

[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Reading, Writing, & Communicating

Standard 1: Oral Expression and Listening

- **Prepared Graduate 1:** Collaborate effectively as group members or leaders who listen actively and respectfully; pose thoughtful questions, acknowledge the ideas of others; and contribute ideas to further the group's attainment of an objective.
- **Prepared Graduate 2:** Deliver effective oral presentations for varied audiences and varied purposes.

Standard 2: Reading for All Purposes

- **Prepared Graduate 5:** Understand how language functions in different contexts, command a variety of word-learning strategies to assist comprehension, and make effective choices for meaning or style when writing and speaking.

Standard 3: Writing and Composition

- **Prepared Graduate 6:** Craft arguments using techniques specific to the genre.
- **Prepared Graduate 7:** Craft informational/explanatory texts using techniques specific to the genre.
- **Prepared Graduate 9:** Demonstrate mastery of their own writing process with clear, coherent, and error-free polished products.

Standard 4: Research Inquiry and Design

- **Prepared Graduate 10:** Gather information from a variety of sources; analyze and evaluate its quality and relevance; and use it ethically to answer complex questions.

Note: Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.