

ITT Technical Institute

PM4797

Project Management and Administration

– Construction Option Capstone Project

Onsite Course

SYLLABUS

Credit hours: 4.5

Contact/Instructional hours: 60 (30 Theory Hours, 30 Lab Hours)

Prerequisite(s) and/or Corequisite(s):

Prerequisites: Completion of a minimum of 171 credits earned in the program of study

Course Description:

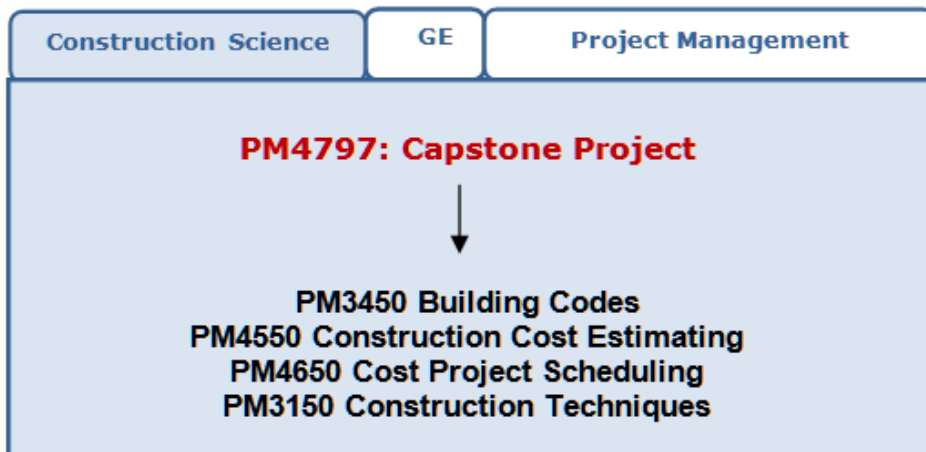
This is a project course, designed to combine elements of courses in the program, in which students develop and present a formal, detailed and comprehensive project management plan. A formal written document and presentation are required.

Where Does This Course Belong?

Construction Option Capstone Project is a course required to obtain a bachelor's degree in the Project Management-Construction program. This course introduces the construction concepts and an introduction to construction materials.

The goal of the program is to help the student acquire the necessary skills to become a versatile member of a construction team. Graduates may begin their careers in a variety of entry-level positions involving construction estimating, construction project management, or building code compliance.

The following course sequence provides an overview of how Construction Option Capstone Project fits into the program.



NOTE: Refer to the catalog for the state-specific course and program information, if applicable.

Course Summary

Major Instructional Areas

1. Competitive bidding for a construction project
2. Management planning for a construction project
3. Applying basic construction management skills

Course Objectives

1. Respond to a public bid announcement for a construction project with a realistic project plan.
2. Describe the advantages of using computer software and Web resources for construction managers.
3. Create a bid in response to a public bid announcement for a construction project.
4. Prepare a presentation describing the key aspects mentioned in a bid.

Learning Materials and References

Required Resources

Complete Textbook Package	New to this Course	Carried over from Previous Course(s)	Required for Subsequent Course(s)
<p>Project Management Institute. (2008). <i>A guide to project management body of knowledge</i> (PMBOK® Guide). (4th ed.). Newtown Square, PA: Project Management Institute, Inc.</p> <p>Note: To access “A Guide to the Project Management Body of Knowledge (PMBOK® Guide) (4th ed.)”, log on to ITT Tech Virtual Library, navigate to Books 24x7, and search with the keywords “PMBOK 4th edition”.</p>			

Recommended Resources

Books, Periodicals

- Hilson, David (2011) *Risk Management in Practice in AMA Handbook of Project Management (2nd Edition)*. Publisher: AMACOM Books
- Kliem, R. L. (2004). *Leading High Performance Projects*. Boca Raton, FL: J. Ross Publishing, Inc.
- Verma, V. K. (1997). *The Human Aspects of Project Management: Managing the Project Team*. (Vol. 3) Newtown Square, PA: Project Management Institute.
- PM Network: <http://www.pmi.org>
- Project Management Journal: <http://www.pmi.org/Knowledge-Center/Publications-Project-Management-Journal.aspx>
- Project Management World Today: <http://www.pmworldtoday.net/>
- Project Magazine: <http://www.projectmag.com/>
- Projects@Work: <http://www.projectsatwork.com/>

Professional Associations

- American Society for the Advancement of Project Management: <http://www.asapm.org/>
- International Association of Project & Program Managers: <http://www.iappm.org/>
- International Project Management Association: <http://www.ipma.ch/Pages/default.aspx>
- International Research Network on Organizing by Projects: <http://www.irnop.org/>
- National Management Association: <http://nma1.org/>

- Project Management Institute: <http://www.pmi.org/>

ITT Tech Virtual Library (accessed via Student Portal (<http://myportal.itt-tech.edu/library/Pages/HomePage.aspx>

Books > Books 24x7

- Budd, C. and Spoede Budd, C. (2005). *A practical guide to earned value*. Vienna, VA: Management Concepts Inc.
- Kendrick, Tom. *The Project Management Tool Kit: 100 Tips and Techniques for Getting the Job Done Right*. AMACOM, 2004.
- Lindberg, A. (2006). *Ethics in business: ethics are increasingly important for corporations*. American Management Association/Human Resources Institute.
- Phillips, J. (2004). *CAPM certified associate in project management all-in-one exam guide*. Emeryville, CA: McGraw-Hill/Osborne.

NOTE: All links are subject to change without prior notice.

Information Search

Use the following keywords to search for additional online resources that may be used for supporting your work on the course assignments:

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- Project Management
- Project Planning
- Project Pre-Initiating
- Project Execution
- Monitoring and Controlling
- Process Groups
- Request for Proposal (RFP)
- Microsoft Project
- Closing a Project
- Project Methodologies

Suggested Learning Approach

In this course, you will be studying individually and within a group of your peers. As you work on the course deliverables, you are encouraged to share ideas with your peers and instructor, work collaboratively on projects and team assignments, raise critical questions, and provide constructive feedback.

Use the following advice to receive maximum learning benefits from your participation in this course:

DO	DON'T
<ul style="list-style-type: none">▪ Do take a proactive learning approach▪ Do share your thoughts on critical issues and potential problem solutions▪ Do plan your course work in advance▪ Do explore a variety of learning resources in addition to the textbook▪ Do offer relevant examples from your experience▪ Do make an effort to understand different points of view▪ Do connect concepts explored in this course to real-life professional situations and your own experiences	<ul style="list-style-type: none">▪ Don't assume there is only one correct answer to a question▪ Don't be afraid to share your perspective on the issues analyzed in the course▪ Don't be negative about the points of view that are different from yours▪ Don't underestimate the impact of collaboration on your learning▪ Don't limit your course experience to reading the textbook▪ Don't postpone your work on the course deliverables – work on small assignment components every day

Course Outline

<p>Unit 1: PROJECT OVERVIEW</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> Evaluate the feasibility of a project. Document project goals and performance requirements. Assess project contribution to business strategy, purpose and plans. Explain the process of modifying a contract. 			<p>Total outside work: 9 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	2 hours	
	Work on the Project.	5 hours	
	Work on the Assignment.	2 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 1 Project 1 Part 1: Contract Modification and Safety Plan	4%
	Assignment	Unit 1 Assignment 1: Team Evaluation Tool	3%

<p>Unit 2: INITIATING THE PROJECT</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> Define constraints and assumptions. Identify a preliminary estimate of project milestones, budgetary requirements and deliverables. Identify issues of quality control and assurance. Create a project plan. Summarize the purpose, inputs tools and techniques, and outputs of the initiating processes. Evaluate a peer project. 			<p>Total outside work: 14 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Research Paper.	5 hours	
	Work on the Presentation for next week.	3 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Research Paper	Unit 2 Research Paper 1: Initiating Processes	4%
	Project	Unit 2 Project Part 2: Project Plan and Quality Control	4%

<p>Unit 3: PROJECT COMMUNICATIONS</p> <ul style="list-style-type: none"> • Communicate the project status. • Summarize the inputs tools and techniques, and outputs of the project communications knowledge area processes. • Identify a job philosophy. • Assign the lines of authority on a project. • Prepare a system of project documentation. • Plan and document a construction meeting. • Perform a stakeholder interest and influence analysis. • Develop a communication plan. 			<p>Total outside work: 11 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Research Paper.	5 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Research Paper	Unit 3 Research Paper 2: Project Communications	4%
	Project	Unit 3 Project Part 3: Project Documentation	4%
		Unit 3 Project Part 4: Communications Plan	4%
Presentation	Unit 3 Presentation 1: Contract Modification	6%	

<p>Unit 4: PROJECT ESTIMATE</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> • Evaluate a peer project. • Use Means Data Costworks. • Create a detailed list of project activities. • Prepare a project estimate. 			<p>Total outside work: 9 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Final Documentation.	3 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 4 Project Part 5: Project Estimate	4%
	Final Documentation	Unit 4 Final Documentation Part 1	5%

<p>Unit 5: PROJECT SCHEDULING, PART 1</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> • Develop a plan to improve performance. • Summarize the processes involved in planning and managing project scope and project schedule. • Accelerate the project schedule. • Evaluate possible scenarios for scheduling. • Describe criteria to issue subcontracts and purchase orders. 		<p>Total outside work: 13 hours</p>	
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Research Paper.	5 hours	
	Work on the Assignment.	2 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Research Paper	Unit 5 Research Paper 3: Scope and Time	4%
	Project	Unit 5 Project Part 6: Project Acceleration	4%
	Assignment	Unit 5 Assignment 1: Teamwork Progress Report	3%

<p>Unit 6: PROJECT SCHEDULING, PART 2</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> • Evaluate a peer project. • Create a project schedule. • Update a project schedule. • Evaluate whether a project schedule should be accelerated. 		<p>Total outside work: 9 hours</p>	
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	8 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 6 Project Part 7: Updating the Schedule	4%

<p>Unit 7: PROJECT HUMAN RESOURCES</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> Evaluate a peer project. Summarize the processes involved in planning and managing project human resources. Develop a plan to lead, mentor, train, and motivate team members. Evaluate the impacts of hiring subcontractors on the schedule. 			<p>Total outside work: 9 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Final Documentation.	3 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 7 Project Part 8: Subcontractors	4%
	Final Documentation	Unit 7 Final Documentation Part 2	5%

<p>Unit 8: PROJECT QUALITY MANAGEMENT</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> Develop a Quality Management Plan and log quality metrics. Define performance criteria to support quality assurance. Describe the purpose, inputs tools and techniques, and outputs of the project human resources management and project quality management processes. Critique documented construction issues. Evaluate commercial construction methods. 			<p>Total outside work: 11 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Research Paper.	5 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Research Paper	Unit 8 Research Paper 4: Human Resources and Quality	4%
	Project	Unit 8 Project Part 9: Construction Quality Issues	4%

<p>Unit 9: PROJECT COST AND RISK</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> • Develop a risk management plan. • Identify and analyze risks to create a risk register. • Capture lessons learned. • Develop a plan to lead, mentor, train, and motivate team members. • Develop a plan to improve performance. • Evaluate techniques to mitigate risk. 			<p>Total outside work: 8 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Assignment.	2 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 9 Project Part 10: Risk Plan	4%
	Assignment	Unit 9 Assignment 1: Teamwork Evaluation	3%

<p>Unit 10: CLOSING THE PROJECT</p> <p>Upon completion of this unit, students are expected to:</p> <ul style="list-style-type: none"> • Identify applicable EPA requirements. • Create a project close-out plan. • Discuss issues related to project turnover. • Summarize the purpose, inputs tools and techniques, and outputs of the project risk management and project integration management processes. • Summarize and present a project to the key stakeholders. 			<p>Total outside work: 15 hours</p>
READING ASSIGNMENT	<ul style="list-style-type: none"> • Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Project.	5 hours	
	Work on the Research Paper.	5 hours	
	Work on the Presentation for next week.	4 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Project	Unit 10 Project Part 11: Project Closing Plan	4%
	Research Paper	Unit 10 Research Paper 5: Integration and Risk	4%

Unit 11: COURSE REVIEW AND FINAL PRESENTATION	Total
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Upon completion of this unit, students are expected to: <ul style="list-style-type: none"> Summarize and present a project to the key stakeholders. 		outside work: 4 hours	
READING ASSIGNMENT	<ul style="list-style-type: none"> Review resources as needed. 		
OUTSIDE WORK	Activity	Estimated Time	
	Complete the reading review.	1 hour	
	Work on the Final Documentation.	3 hours	
GRADED ACTIVITIES / DELIVERABLES	Grading Category	Activity/Deliverable Title	Grade Allocation (% of all graded work)
	Final Documentation	Unit 11 Final Documentation Part 3 (Portfolio)	5%
	Presentation	Unit 11 Presentation: Final Project Presentation	6%

Note: Your instructor may add a few learning activities that will change the grade allocation for each assignment in a category. The overall category percentages will not change.

Evaluation and Grading

Evaluation Criteria

The graded assignments will be evaluated using the following weighted categories:

Category	Weight
Project	44%
Research Paper	20%
Assignment	9%
Final Documentation	15%
Presentation	12%
TOTAL	100%

Grade Conversion

The final grades will be calculated from the percentages earned in the course, as follows:

Grade	Percentage	Credit
A	90–100%	4.0
B+	85–89%	3.5
B	80–84%	3.0
C+	75–79%	2.5
C	70–74%	2.0
D+	65–69%	1.5
D	60–64%	1.0
F	<60%	0.0

Academic Integrity

All students must comply with the policies that regulate all forms of academic dishonesty or academic misconduct, including plagiarism, self-plagiarism, fabrication, deception, cheating, and sabotage. For more information on the academic honesty policies, refer to the Student Handbook and the Course Catalog.

PM4797 Course Snapshot

Grading Category	Grade Book Category Weight (% of course total)	Unit(s)	Activity/Graded Deliverables	Grade Allocation (% of course total)	Measuring Rubric (Gradebook Assignment Name)
A. Research Paper	15%	2	Research Paper 1 - Rationale for	6 papers @ 2.5% each	A-4-1 Construction Requirements (1.25%) A-Y6-2 Learning new concepts (1.25%)
		3 5 6 8 10	Initiating Choices Research Paper 2 - Project Communications Research Paper 3 - Scope and Time Research Paper 4 - Procurement and Cost Research Paper 5 - Human Resources & Quality Research Paper 6 - Integration & Risk		
B. Project	50%	1	Part 1 Project Selection and Summary	12 parts @ 4% each	B-1-1 Nine designated areas (0.75%) B-1-2 Five process groups (0.75%) B-2-1 Documentation (0.60%) B-3-1 Software Application (0.60%) B-4-1 Construction Requirements (0.50%) B-Y1-1 Ethical Behavior (0.50%) B-Y6-2 Learning New Concepts (0.30%)
		2	Part 2 Project Charter		
		3	Part 3 Project Stakeholder Analysis		
		3	Part 4 Project Communications Plan		
		4	Part 5 Project Scope Statement		
		4	Part 6 Project Activities List		
		5	Part 7 Project Schedule and WBS		
		6	Part 8 Project Procurement & Acquisition Plan		
		6	Part 9 Project Cost Estimate & Budget		
		7	Part 10 Project Human Resources		
8	Part 11 Quality Plan				
9	Part 12 Risk Plan	48%			
		10	Part 13 Project Closing Plan	2%	B-1-1 Nine designated areas (0.45%) B-1-2 Five process groups (0.45%) B-2-1 Documentation (0.30%) B-3-1 Software Application (0.25%) B-4-1 Construction Requirements (0.25%) B-Y1-1 Ethical Behavior (0.15%) B-Y6-2 Learning New Concepts (0.15%)
C. Assignment	5%	1	Team Evaluation Tool	1%	C-Y4-1 Effective Communication (0.50%) C-Y1-1 Ethical Behavior (0.50%)

		5	Teamwork Progress Report	2 @ 2% each	C-Y4-1 Effective Communication (1.00%)
		9	Teamwork Evaluation	4%	C-Y1-1 Ethical Behavior (1.00%)
D. Final Documentation	20%	4	Part 1 - Project Initiation	2 @ 5% each	D-1-1 Nine designated areas (1.00%) D-1-2 Five process groups (1.00%) D-2-1 Documentation (1.00%) D-3-1 Software Application (1.00%) D-4-1 Construction Requirements (1.00%)
		7	Part 2 - Project Planning		
		11	Part 2 Final Project Plan Proposal	10%	D-1-1 Nine designated areas (2.00%) D-1-2 Five Process groups (2.00%) D-2-1 Documentation (2.00%) D-3-1 Software Application (2.00%) D-4-1 Construction Requirements (2.00%)
E. Presentation	10%	3	Unit 3 Presentation 1 - Initiating	2%	E-1-1 Nine designated areas (0.30%) E-1-2 Five process groups (0.30%) E-2-1 Documentation (0.50%) E-3-1 Software Application (0.30%) E-Y4-1 Effective Communication (0.60%)
		11	Unit 11 Final Project Presentation	8%	E-1-1 Nine designated areas (1.50%) E-1-2 Five process groups (1.50%) E-2-1 Documentation (2.00%) E-4-1 Construction Requirements (1.00%) E-Y4-1 Effective Communication (2.00%)
Total	100%			100%	

COURSE GRADING RUBRIC

PM4797–Project Management Capstone

Campus: _____

Faculty Name: _____

Student Name: _____

Directions: Please assign a percentage grade for each measuring rubric (assignment in the gradebook).

A. Research Paper (15% of total grade)

Units 2, 3, 5, 6, 8 and 10—Use the table and rubrics below to grade the 2 components of each research paper. (The vertical component names match the assignment names in the gradebook.)

Activity/Graded Deliverable	A-4-1 Construction Requirements	A-Y6-2 Learning New Concepts
Unit 2, Research Paper 1, Rationale for Initiating Choices		
Unit 3, Research Paper 2, Project Communications		
Unit 5, Research Paper 3, Scope and Time		
Unit 6, Research Paper 4, Procurement and Cost		
Unit 8, Research Paper 5, Human Resources and Quality		
Unit 10, Research Paper 6, Integration and Risk		

Grading Rubrics for Research Papers:

A-4-1 Construction Requirements:

- **90-100%:** Excellent execution of research, design, and planning that clearly defined the project plan. The student clearly articulates a comprehensive understanding of the major functions involved in a construction project.
- **80-89%:** Student demonstrated an effective understanding of standards and "best practices" in the development of a construction project plan.

- 70-79%: Student provided a project plan that meets minimum requirements. Student displayed evidence of basic understanding of construction requirements and practices as they relate to the building industry.
- 60-69%: Student uses some criteria as a basis for developing a construction project plan. The student provided only a minimal understanding of standards and "best practices" as they relate to the building industry.
- Below 60%: Student provided disorganized research, design, and planning materials that did not meet minimum requirements for construction practices. The student could not articulate an understanding of the construction requirements and practices as they relate to the building industry

A-Y6-2 Learning New Concepts:

- 90-100%: Develops and implements a system for routinely searching and exploring information about new concepts.
- 80-89%: Demonstrates the ability and desire to search for and quickly locate information about new concepts.
- 70-79%: Demonstrates the ability and desire to search for and locate information about new concepts.
- 60-69%: Often demonstrates information literacy skills
- Below 60%: Rarely applies information literacy skills

B. Project (50% of total grade)

Units 1 through 10—Use the table and rubrics below to grade the 7 components of each project activity. (The vertical component names match the assignment names in the gradebook.)

Activity/Graded Deliverable	B-1-1 Nine Designated Areas	B-1-2 Five Process Groups	B-2-1 Documentation	B-3-1 Software Application	B-4-1 Construction Requirements	B-Y1-1 Ethical Behavior	B-Y6-2 Learning New Concepts
Unit 1: Part 1, Project Selection and Summary							
Unit 2: Part 2, Project Charter							
Unit 3: Part 3, Project Stakeholder Analysis							

Unit 3: Part 4, Project Communications Plan							
Unit 4: Part 5, Project Scope Statement							
Unit 4: Part 6, Project Activities List							
Unit 5: Part 7, Project Schedule and WBS							
Unit 6: Part 8, Project Procurement and Acquisition Plan							
Unit 6: Part 9, Project Cost Estimate and Budget							
Unit 7: Part 10, Project Human Resources							
Unit 8: Part 11, Quality Plan							
Unit 9: Part 12, Risk Plan							
Unit 10: Part 13, Project Closing Plan							

Grading Rubrics for the Project:

B-1-1 Nine Designated Areas:

- 90-100%: Student shows a complete understanding of all designated areas of a project. They are well integrated in the plan and it is clear that the student has a detailed scope for all elements.
- 80-89%: Student uses most of the nine designated areas as a plan to bring the important elements into the project. They are appropriately defined.
- 70-79%: Students uses some of the designated areas in their thinking. There is an effort to be complete but some areas are not well represented in their final work.
- 60-69%: Student seems unaware of all nine designated areas of concentration. Several are missing in their work; leaving objectives uncovered.
- Below 60%: Student makes little or no use of the nine designated areas. Their project plan is an ad hoc compilation of subjective groups of activities.

B-1-2 Five Process Groups:

- 90-100%: Student uses the process groups as interactive activities and anchors project deliverables within each process.
- 80-89%: Student uses the process groups to scope the project deliverables and recognizes the interactive nature of the process groups.
- 70-79%: Student uses the process groups to establish the timeline of the project and details them appropriately. There may be some misunderstanding of the application tools to employ.
- 60-69%: Student leaves out steps in the formal project plan that indicates a lack of process knowledge. Some steps are "taken for granted" and not documented.
- Below 60%: Student does not use the five process groups to establish the timeline of the project. Project steps are chosen with an unstructured approach.

B-2-1 Documentation:

- 90-100%: Student presents documentation that is compelling and concise in displaying project performance and the project schedule. It is apparent that the project has been managed by using documentation tools; all required deliverables are included.
- 80-89%: Student provides documentation that is fact-based in communicating activities and results. It is linked to many of the important elements of the project; all required deliverables are included.
- 70-79%: Student recognizes the need for formal documentation, but there may be some gaps in their use. Appropriate forms are used for those applications considered; most of the required deliverables are included.
- 60-69%: Student takes a dim view of formal documentation and, while using documents in the project, they are usually not those that were introduced in the program; some required deliverables are included.
- Below 60%: Student does not use forms that were taught in the program. Documentation is not evident in the project materials, and where it exists it usually does not address the intent of formal project evidence; no deliverables are included.

B-3-1 Software Application:

- 90-100%: Student has a comprehensive understanding of the functions and capabilities of various software applications and equipment for planning construction projects. Student shows skill in choosing the best software for their project and makes recommendations that are supported by the data and show an understanding of the reliability of their conclusions.
- 80-89%: Student makes the proper decisions on which software and tools to use. The student provided an adequate set of construction scheduling and material “take off” documents required for the building industry
- 70-79%: Student has a basic understanding of the processes and functions of the software and equipment needed to develop a comprehensive capstone project. The student provided a minimum set of construction scheduling and material “take off” documents required for the building industry
- 60-69%: Student does not demonstrate a complete understanding of the software and equipment needed to develop the comprehensive project plan. The student cannot define the functions of the various software applications for construction scheduling and material “take off” required in the building industry.
- Below 60%: Student has not indicated the nature of the processes and functions of the software and equipment needed to develop a comprehensive construction project. The student cannot define the function of the application and did not utilize the proper software nor developed their construction project plan.

B-4-1 Construction Requirements:

- 90-100%: Excellent execution of research, design, and planning that clearly defined the project plan. The student clearly articulates a comprehensive understanding of the major functions involved in a construction project.
- 80-89%: Student demonstrated an effective understanding of standards and "best practices" in the development of a construction project plan.
- 70-79%: Student provided a project plan that meets minimum requirements. Student displayed evidence of basic understanding of construction requirements and practices as they relate to the building industry.
- 60-69%: Student uses some criteria as a basis for developing a construction project plan. The student provided only a minimal understanding of standards and "best practices" as they relate to the building industry.
- Below 60%: Student provided disorganized research, design, and planning materials that did not meet minimum requirements for construction practices. The student could not articulate an understanding of the construction requirements and practices as they relate to the building industry

B-Y1-1 Ethical Behavior:

- 90-100%: In a professional and respectful way, actively challenges problems in ethical behavior and brings them to successful conclusion. Understands the implications of unethical behavior and of confronting it.
- 80-89%: Exhibits exemplary ethical behavior and inspires others to behave more ethically by example.
- 70-79%: Exhibits behavior that is always consistent with personal and professional ethical standards
- 60-69%: Exhibits behavior that is usually consistent with personal and professional ethical standards.
- Below 60%: Exhibits behavior that is inconsistent with personal and professional ethical standards.

B-Y6-2 Learning New Concepts:

- 90-100%: Develops and implements a system for routinely searching and exploring information about new concepts.
- 80-89%: Demonstrates the ability and desire to search for and quickly locate information about new concepts.
- 70-79%: Demonstrates the ability and desire to search for and locate information about new concepts.
- 60-69%: Often demonstrates information literacy skills
- Below 60%: Rarely applies information literacy skills

C. Assignment (5% of total grade)

Units 1, 5 and 9—Use the table and rubrics below to grade the 2 components of each assignment. (The vertical component names match the assignment names in the gradebook.)

Activity/Graded Deliverable	C-Y4-1 Effective Communication	C-Y1-1 Ethical Behavior
Unit 1, Team Evaluation Tool		
Unit 5, Teamwork Progress Report		
Unit 9, Teamwork Evaluation		

Grading Rubrics for the Assignment:

C-Y4-1 Effective Communication:

- 90-100%: Readily identifies purpose and audience and accurately tailors communication accordingly. Assesses the risk of not communicating effectively and makes a strong and effective presentation as a result.
- 80-89%: Readily identifies purpose and audience and accurately tailors communication accordingly. Assesses the risk of not communicating effectively.
- 70-79%: Identifies purpose and audience and accurately tailors communication accordingly.
- 60-69%: Correctly identifies purpose and audience when reviewing or constructing a communication piece.
- Below 60%: Struggles to articulate purpose and identify audience when reviewing or constructing a communication piece.

C-Y1-1 Ethical Behavior:

- 90-100%: In a professional and respectful way, actively challenges problems in ethical behavior and brings them to successful conclusion. Understands the implications of unethical behavior and of confronting it.

- 80-89%: Exhibits exemplary ethical behavior and inspires others to behave more ethically by example.
- 70-79%: Exhibits behavior that is always consistent with personal and professional ethical standards
- 60-69%: Exhibits behavior that is usually consistent with personal and professional ethical standards.
- Below 60%: Exhibits behavior that is inconsistent with personal and professional ethical standards.

D. Final Documentation (20% of total grade)

Units 4, 7, and 11–Use the table and rubrics below to grade the 5 components of the final project documentation. (The vertical component names match the assignment names in the gradebook.)

	D-1-1 Nine Designated Areas	D-1-2 Five Process Groups	D-2-1 Documentation	D-3-1 Software Application	D-4-1 Construction Requirements
Activity/Graded Deliverable					
Unit 4: Part 1, Project Initiation					
Unit 7: Part 2, Project Planning					
Unit 11: Part 2, Final Project Plan Proposal					

Grading Rubrics for the Final Documentation:

D-1-1 Nine Designated Areas:

- 90-100%: Student shows a complete understanding of all designated areas of a project. They are well integrated in the plan and it is clear that the student has a detailed scope for all elements.
- 80-89%: Student uses most of the nine designated areas as a plan to bring the important elements into the project. They are appropriately defined.
- 70-79%: Students uses some of the designated areas in their thinking. There is an effort to be complete but some areas are not well represented in their final work.

- 60-69%: Student seems unaware of all nine designated areas of concentration. Several are missing in their work; leaving objectives uncovered.
- Below 60%: Student makes little or no use of the nine designated areas. Their project plan is an ad hoc compilation of subjective groups of activities.

D-1-2 Five Process Groups:

- 90-100%: Student uses the process groups as interactive activities and anchors project deliverables within each process.
- 80-89%: Student uses the process groups to scope the project deliverables and recognizes the interactive nature of the process groups.
- 70-79%: Student uses the process groups to establish the timeline of the project and details them appropriately. There may be some misunderstanding of the application tools to employ.
- 60-69%: Student leaves out steps in the formal project plan that indicates a lack of process knowledge. Some steps are "taken for granted" and not documented.
- Below 60%: Student does not use the five process groups to establish the timeline of the project. Project steps are chosen with an unstructured approach.

D-2-1 Documentation:

- 90-100%: Student presents documentation that is compelling and concise in displaying project performance and the project schedule. It is apparent that the project has been managed by using documentation tools; all required deliverables are included.
- 80-89%: Student provides documentation that is fact-based in communicating activities and results. It is linked to many of the important elements of the project; all required deliverables are included.
- 70-79%: Student recognizes the need for formal documentation, but there may be some gaps in their use. Appropriate forms are used for those applications considered; most of the required deliverables are included.
- 60-69%: Student takes a dim view of formal documentation and, while using documents in the project, they are usually not those that were introduced in the program; some required deliverables are included.
- Below 60%: Student does not use forms that were taught in the program. Documentation is not evident in the project materials, and where it exists it usually does not address the intent of formal project evidence; no deliverables are included.

D-3-1 Software Application:

- 90-100%: Student has a comprehensive understanding of the functions and capabilities of various software applications and equipment for planning construction projects. Student shows skill in choosing the best

software for their project and makes recommendations that are supported by the data and show an understanding of the reliability of their conclusions.

- 80-89%: Student makes the proper decisions on which software and tools to use. The student provided an adequate set of construction scheduling and material “take off” documents required for the building industry
- 70-79%: Student has a basic understanding of the processes and functions of the software and equipment needed to develop a comprehensive capstone project. The student provided a minimum set of construction scheduling and material “take off” documents required for the building industry
- 60-69%: Student does not demonstrate a complete understanding of the software and equipment needed to develop the comprehensive project plan. The student cannot define the functions of the various software applications for construction scheduling and material “take off” required in the building industry.
- Below 60%: Student has not indicated the nature of the processes and functions of the software and equipment needed to develop a comprehensive construction project. The student cannot define the function of the application and did not utilize the proper software nor developed their construction project plan.

D-4-1 Construction Requirements:

- 90-100%: Excellent execution of research, design, and planning that clearly defined the project plan. The student clearly articulates a comprehensive understanding of the major functions involved in a construction project.
- 80-89%: Student demonstrated an effective understanding of standards and "best practices" in the development of a construction project plan.
- 70-79%: Student provided a project plan that meets minimum requirements. Student displayed evidence of basic understanding of construction requirements and practices as they relate to the building industry.
- 60-69%: Student uses some criteria as a basis for developing a construction project plan. The student provided only a minimal understanding of standards and "best practices" as they relate to the building industry.
- Below 60%: Student provided disorganized research, design, and planning materials that did not meet minimum requirements for construction practices. The student could not articulate an understanding of the construction requirements and practices as they relate to the building industry

E. Presentation (10% of total grade)

Units 3 and 11—Use the table and rubrics below to grade the 5 components of each presentation. (The vertical component names match the assignment names in the gradebook.)

XX in a cell indicates the rubric is not applicable to that activity.

Activity/Graded Deliverable	E-1-1 Nine Designated Areas	E-1-2 Five Process Groups	E-2-1 Documentation	E-3-1 Software Application	E-4-1 Construction Requirements	E-Y4-1 Effective Communication
Unit 3: Presentation 1-Initiating						
Unit 11: Final Project Presentation						

Grading Rubrics for the Presentations:

E-1-1 Nine Designated Areas:

- 90-100%: Student shows a complete understanding of all designated areas of a project. They are well integrated in the plan and it is clear that the student has a detailed scope for all elements.
- 80-89%: Student uses most of the nine designated areas as a plan to bring the important elements into the project. They are appropriately defined.
- 70-79%: Students uses some of the designated areas in their thinking. There is an effort to be complete but some areas are not well represented in their final work.
- 60-69%: Student seems unaware of all nine designated areas of concentration. Several are missing in their work; leaving objectives uncovered.
- Below 60%: Student makes little or no use of the nine designated areas. Their project plan is an ad hoc compilation of subjective groups of activities.

C.

E-1-2 Five Process Groups:

- 90-100%: Student uses the process groups as interactive activities and anchors project deliverables within each process.
- 80-89%: Student uses the process groups to scope the project deliverables and recognizes the interactive nature of the process groups.
- 70-79%: Student uses the process groups to establish the timeline of the project and details them appropriately. There may be some misunderstanding of the application tools to employ.
- 60-69%: Student leaves out steps in the formal project plan that indicates a lack of process knowledge. Some steps are "taken for granted" and not documented.
- Below 60%: Student does not use the five process groups to establish the timeline of the project. Project steps are chosen with an unstructured approach.

E-2-1 Documentation:

- 90-100%: Student presents documentation that is compelling and concise in displaying project performance and the project schedule. It is apparent that the project has been managed by using documentation tools; all required deliverables are included.
- 80-89%: Student provides documentation that is fact-based in communicating activities and results. It is linked to many of the important elements of the project; all required deliverables are included.
- 70-79%: Student recognizes the need for formal documentation, but there may be some gaps in their use. Appropriate forms are used for those applications considered; most of the required deliverables are included.
- 60-69%: Student takes a dim view of formal documentation and, while using documents in the project, they are usually not those that were introduced in the program; some required deliverables are included.
- Below 60%: Student does not use forms that were taught in the program. Documentation is not evident in the project materials, and where it exists it usually does not address the intent of formal project evidence; no deliverables are included.

E-3-1 Software Application (Unit 3, Presentation 1 only):

- 90-100%: Student has a comprehensive understanding of the functions and capabilities of various software applications and equipment for planning construction projects. Student shows skill in choosing the best software for their project and makes recommendations that are supported by the data and show an understanding of the reliability of their conclusions.
- 80-89%: Student makes the proper decisions on which software and tools to use. The student provided an adequate set of construction scheduling and material "take off" documents required for the building industry

- 70-79%: Student has a basic understanding of the processes and functions of the software and equipment needed to develop a comprehensive capstone project. The student provided a minimum set of construction scheduling and material “take off” documents required for the building industry
- 60-69%: Student does not demonstrate a complete understanding of the software and equipment needed to develop the comprehensive project plan. The student cannot define the functions of the various software applications for construction scheduling and material “take off” required in the building industry.
- Below 60%: Student has not indicated the nature of the processes and functions of the software and equipment needed to develop a comprehensive construction project. The student cannot define the function of the application and did not utilize the proper software nor developed their construction project plan.

E-4-1 Construction Requirements (Unit 11, Final Project Presentation only):

- 90-100%: Excellent execution of research, design, and planning that clearly defined the project plan. The student clearly articulates a comprehensive understanding of the major functions involved in a construction project.
- 80-89%: Student demonstrated an effective understanding of standards and "best practices" in the development of a construction project plan.
- 70-79%: Student provided a project plan that meets minimum requirements. Student displayed evidence of basic understanding of construction requirements and practices as they relate to the building industry.
- 60-69%: Student uses some criteria as a basis for developing a construction project plan. The student provided only a minimal understanding of standards and "best practices" as they relate to the building industry.
- Below 60%: Student provided disorganized research, design, and planning materials that did not meet minimum requirements for construction practices. The student could not articulate an understanding of the construction requirements and practices as they relate to the building industry

E-Y4-1 Effective Communication:

- 90-100%: Readily identifies purpose and audience and accurately tailors communication accordingly. Assesses the risk of not communicating effectively and makes a strong and effective presentation as a result.
- 80-89%: Readily identifies purpose and audience and accurately tailors communication accordingly. Assesses the risk of not communicating effectively.

- 70-79%: Identifies purpose and audience and accurately tailors communication accordingly.
- 60-69%: Correctly identifies purpose and audience when reviewing or constructing a communication piece.
- Below 60%: Struggles to articulate purpose and identify audience when reviewing or constructing a communication piece.

(End of Syllabus)