94-838 Advanced Project Cost Management with Power BI

Course Syllabus, Fall 2024 (Mini 1)

Instructor

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Office Hours

Tuesdays - 12:30pm-1:30pm (via Zoom),

Thursday/Friday - by appointment only

Lecture

Section C – Monday and Wednesday 2pm - 3:20pm – Hamburg Hall 2003

Required Text

All textbooks required for the course are accessible through the CMU Libraries. The textbooks are linked within Canvas primarily to EBSCO and specific sections will be referenced throughout the course.

Project Management Institute. *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Seventh Edition and The Standard for Project Management (ENGLISH)*. Project Management Institute, 2021.

Project Management Institute. *Practice Standard for Work Breakdown Structures - Third Edition*. Project Management Institute, 2019.

Project Management Institute. *Practice Standard for Project Estimating - Second Edition*. Project Management Institute, 2019.

Project Management Institute. *The Standard for Earned Value Management*. Project Management Institute, 2019.

Kerzner, Harold. *Project Recovery : Case Studies and Techniques for Overcoming Project Failure*, John Wiley & Sons, Incorporated, 2014.

Additional Resources

Project Management Institute (pmi.org) has substantial project cost management content and materials that you may like to reference during the course. While the scope of our courses focuses on project cost management, there are many other resources available on this site that you may want to consider for future projects.

Prerequisites/Required Software

Must have successfully taken 90-723 Financial Statements and Analysis or 95-719 Accounting and Finance Analytics.

The course uses Microsoft Excel and Power BI for assignments and in class exercises. If you are not comfortable with either software application, you can find courses through LinkedIn learning which you have access to with your CMU account:

https://www.cmu.edu/web/training/linkedin-learning.html

For Power BI, as many students have not had exposure to Power BI, we will utilize this program in class for workshops so understanding the basics of importing data, formatting data and adding visualizations to your dashboard will be sufficient for the course.

You will only need Power BI Desktop for this course, we will not be using the Power BI service. It is a free download here: https://www.microsoft.com/en-us/download/details.aspx?id=58494

Course Description

This course is designed to provide a comprehensive understanding of project cost management, data analytics, and the application of Power BI tools for visualization. Through in-depth analysis, students will learn how to identify potential cost overruns early in the project lifecycle. By analyzing real-world project cases, students will build a comprehensive portfolio of skills tailored to address the challenges of cost management and data-driven decision-making in project environments. Upon completion of this course, students will be empowered to proactively identify, analyze, and mitigate cost overruns, driving project success and delivering value to stakeholders.

Course Objectives

At the end of this course, you should be able to:

-Analyze real-world examples of unsuccessful attempts to manage project cost overruns and apply the lessons learned to future projects.
-Implement strategies to address cost overruns and deviations from the budget.
-Explore strategies for recovering from cost overruns and cost-cutting measures.
-Understand how capitalizing versus expensing project costs can affect the financial statements.
-Create interactive and dynamic project dashboards using Microsoft Excel and Power BI.

Course Organization

Canvas

The course will utilize Canvas for all material needed. All course deliverables are included in Canvas. Class material is contained within the Modules tab in Canvas and organized by class session. Important class information will be communicated via Canvas, including class being moved to a remote environment, through announcements so please make sure to check frequently and have your announcements turned on. (https://canvas.cmu.edu)

Reading Materials

This course is broken into 4 Modules. Each module will have reading assignments applicable to the content for that module as well as articles or case studies on real projects that we will analyze during class. You are expected to have read the material prior to class based on the schedule that is posted in this syllabus.

Grading Summary

Class Participation - 20%
Discussion Boards - 20%
Quizzes & Assignments - 25%
Final Project - 35%

Your final grade depends on the extent to which you demonstrate the capacity to think critically about project cost management that is demonstrated through in class discussions and application of cost management concepts through the final presentation.

Any grading disputes must be communicated within 1 week of receiving the grade. After this point no adjustments will be made.

Class Participation

Class participation will be an integral part of your learning experience in this course. Your participation will be assessed during class and you will also self-assess your participation twice during the mini. This includes demonstrating being prepared for class, participating and adding insights to class activities, contributing to both small group discussions and larger group discussions.

Attendance will also contribute to your participation grade as you cannot be an active participant if you are not in class. You may miss 2 classes for any reason (job interview, sickness, deadlines, etc) and you have the option to notify me if you will miss, however it is not required.

Classroom Behavior

It is expected that you will arrive on time for class. Situations may infrequently occur where you may need to arrive late, however please come in quietly to not disturb the lecture and your fellow classmates.   Laptops/ipads are allowed to be used during class, however you should not be working on

other classes or messaging with friends. No cell phone use is permitted during class sessions. It is very apparent if this is occurring, and this will be reflected in your participation grade.

Discussion Board

There will be a discussion board for each of the Modules during the course. Please note that there are no extensions for discussion board participation. To earn full credit, you will need to post by the deadlines. Please pay careful attention to the grading rubrics for the discussion forum.

Your insights from your prior experiences combined with the course material are valuable to the discussion boards and the course content. You must make 1 original post in response to the discussion prompt and 1 response to a classmate during each module.

Assignments & Quizzes

There will be individual assignments during the course which will be submitted in either Canvas or through workshops via direct observation. Any questions related to the assignments should be addressed during lecture or office hours so please do not wait until the last minute to look at the assignment.

Your work is to be completed individually on the assignments, your answers should be in your own words. This is defined as you should not have the exact same sentences as your classmates. You are welcome to ask other students questions but completing the assignments together is not permitted. Having possession of another students' assignment in any form is considered an Academic Integrity violation and will not be tolerated. Assignments will be checked for plagiarism using the Turnitin application.

Further details of the specifics of the assignment submission guidelines are contained in each assignment. Assignments turned in after the due date will be eligible for a maximum of 90% of the original grade. You will have 24 hours past the due date to turn in the assignment for the reduced grade, past that time frame no assignments will be accepted.

There will be 4 mini quizzes through the course for the purpose of comprehension checks of the contents of each Module. The quiz can be completed at any point during the open window listed on Canvas. You can use any course materials to complete the quiz. Late quizzes will not be accepted.

Final Project

This course will culminate with you presenting on a cost overrun project of your choice. You will need to present the following on each project, the background of why the project was undertaken and then will address topics from each of the modules in the course: resource planning, cost estimation, cost budgeting and cost control.   More information will be communicated during the course on the final project.

Academic Integrity

All assignments that you are submitting should be in your own words, not classmates and not directly taken from the books or online resources including financial statements. You may work with classmates to discuss assignments and ask questions, but the assignments are to be completed individually. I will be checking for plagiarism amongst assignments which includes having the same sentences as a classmate. Cheating on assignments or exams will not be tolerated and will be communicated to Your Program Director, The Associate Dean and The Dean of Student Affairs at the University. If you are caught cheating, your final grade will be reduced by 2 letter grades.
https://www.cmu.edu/policies/student-and-student-life/academic-integrity.html

You may use generative AI programs like ChatGPT during the class and/or assignments to help you understand course content but not to generate answers to assignment problems. Generative AI programs rely on predictive models to generate content that may appear correct, but has been shown to sometimes be incomplete, inaccurate, taken without attribution from other sources, and / or biased. You are ultimately responsible for the content of the information you submit. However, you may not attempt to pass off any work generated by an AI program as your own.

Accommodations for Students with Disabilities

If you have a disability and have an accommodations letter from the Disability Resources office, you need to contact me to discuss your accommodations and requirements as early in the Mini as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to contact them at access@andrew.cmu.edu.

Additional Course/University Information:

Student Wellness

Please make it a priority to take care of yourself during the semester. Focus on a healthy lifestyle to help you achieve your goals and what you are hoping to accomplish during your time here. There are a variety of resources available to ask for help. Don't wait and get help if you feel that you need it.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at http://www.cmu.edu/counseling/. Consider reaching out to a friend, faculty or family member you trust for help getting connected to the support that can help.

If you or someone you know is feeling suicidal or in danger of self-harm, call someone immediately, day or night:

CaPS: 412-268-2922
Re:solve Crisis Network: 888-796-8226
If the situation is life threatening, call the police
On campus: CMU Police: 412-268-2323
Off campus: 911

Diversity

We are diverse in many ways, and this diversity is fundamental to building and maintaining an equitable and inclusive campus community. Diversity can refer to multiple ways that we identify ourselves, including but not limited to race, color, national origin, language, sex, disability, age, sexual orientation, gender identity, religion, creed, ancestry, belief, veteran status, or genetic information. Each of these diverse identities, along with many others not mentioned here, shape the perspectives our students, faculty, and staff bring to our campus. We, at CMU, will work to promote diversity, equity and inclusion not only because diversity fuels excellence and innovation, but because we want to pursue justice. We acknowledge our imperfections while we also fully commit to the work, inside and outside of our classrooms, of building and sustaining a campus community that increasingly embraces these core values. Each of us is responsible for creating a safer, more inclusive environment.

Unfortunately, incidents of bias or discrimination do occur, whether intentional or unintentional. They contribute to creating an unwelcoming environment for individuals and groups at the university. Therefore, the university encourages anyone who experiences or observes unfair or hostile treatment on the basis of identity to speak out for justice and support, within the moment of the incident or after the incident has passed. Anyone can share these experiences using the following resources:

Center for Student Diversity and Inclusion: csdi@andrew.cmu.edu, (412) 268-2150

Report-It online anonymous reporting platform: reportit.net username**:** *tartans* password**:** *plaid*

All reports will be documented and deliberated to determine if there should be any following actions. Regardless of incident type, the university will use all shared experiences to transform our campus climate to be more equitable and just.

Food Insecurity

If you are worried about affording food or feeling insecure about food, there are resources on campus that can help. Email the CMU Food Pantry Coordinator to schedule an appointment:

Pantry Coordinator:
cmu-pantry@andrew.cmu.edu
412-268-8704 (SLICE office)

Student Academic Success Center

The Student Academic Success Center offers a wide variety of opportunities for students to deepen their understanding of who they are as learner, communicator, and ultimately scholar.   They support student

success by providing academic coaching, communication consulting and workshops, accommodations and support for students with disabilities, and language support for English language learners. The program offerings are free and open to all students.   You can access the center here: https://www.cmu.edu/student-success/programs/index.html

The following is a tentative schedule for the Mini. Any changes will be announced in class and through Canvas:

Date	Lecture Topic	Due Dates/Quizzes
8/26/2024	Module 1: Resource Planning	
8/28/2024	Module 1: Resource Planning/ Cost Overrun Case Discussion (FBI Virtual Case File)	**Power BI training on Linked In learning**
9/2/2024	NO CLASS	
9/4/2024	Module 2: Cost Estimation	**Quiz 1 & Module 1 Discussion Posts Due** **Assignment #1 Due 9/6/24**
9/9/2024	Module 2: Cost Estimation /Cost Overrun Case Discussion (Honolulu Rapid Transit System)	
9/11/2024	Module 3: Cost Budgeting	**Quiz 2 & Module 2 Discussion Posts Due** **Assignment #2 Due 9/13/24**
9/16/2024	Module 3: Cost Budgeting / Cost Overrun Case Discussion (Big Dig)	**Module 2 Discussion Post Due**
9/18/2024	Module 3: Cost Budgeting / Power BI Dashboard Workshop (Assignment #3)	**Self Assessment #1 - Class Participation Due**
9/23/2024	Module 4: Cost Control	**Quiz 3 & Module 3 Discussion Posts Due**
9/25/2024	Module 4: Cost Control / Cost Overrun Case Discussion (Sydney Opera House)	
9/30/2024	Module 4: Cost Control / Power BI Dashboard Workshop (Assignment #4)	**Quiz 4 Due**
10/2/2024	Final Project Presentations	**Module 4 Discussion Posts Due**

10/7/2024	Final Project Presentations	
10/9/2024	Final Project Presentations	**Self Assessment #2 - Class Participation Due**