New Jersey Institute of Technology

[Department of Mechanical and Industrial Engineering]

[EM 637-102] [Project Control]

[Spring 2024]

Instructor: Ikhmeis, Ph.D.IE

[Sat 09:00 – 11:50 AM]; [CKB 310]

[si8@njit.edu]

[Office: GITC 303 / Phone: (347)-453.4124]

Office hours: [Saturday] [1:00 –2:00 PM], or by appointment

Prerequisite Knowledge

Prerequisite: EM 636 Project Management or equivalent

Course Description

Focuses on the methodology that can be employed to plan project implementation and control progress. Topics include work breakdown construction, task, and schedule development budgetary control, earned value analysis, and behavioral considerations. Project management software utilization is emphasized.

Course Objectives

The course intends to give the student an understanding of project management in particular the area of project control, and to provide practical guidance and tools to enable the student to understand project management via project control in the "real world". At the end of the semester students should be able answer the following questions:

1. What performance measures should be selected?
2. What data should be used to estimate the current value of each performance measure?
3. How should raw data be collected, from which sources, and in what frequency?
4. How should data be analyzed to detect current and future deviations?
5. How should results be reported, in what format, to whom, and how often?

Answers to these questions underlie the design of the control system's data collection, data processing, information distribution, and response processes. Management should exercise project control throughout a project life cycle. Information provided by a control system is essential for the ongoing decision making aimed at keeping a project on track.

General Policies:

Students are responsible for reading the associated chapters and assigned materials and reviewing key concepts, terms, definitions, discussion questions, and topics in the chapters.

- Attendance is mandatory
- No incomplete grade will be given
- No late submittal of assignments/exams, solution will be posted immediately on the due date of the assignment
- Students must submit all assignments/exams via Canvas only. Assignments attached to emails sent directly to the professor will not be accepted.

Canvas

We are going to use Canvas throughout the semester to distribute all course material. Submissions are also going to be collected through Canvas. You can access your Canvas account with your UCID and password.

- Each week's contents are organized through modules.
- A module will include lecture notes, discussions, and homework, and any other resources available for the lecture on hand.

Provided material on Canvas: PowerPoint Slides, Videos, Reading Material, Homework problems

Course Structure

- The course mode is Face-to Face

Required Textbook

Main Textbook

- Project Control Integrating Cost and Schedule in Construction, 2nd Edition, By Wayne J. Del Pico, ISBN: 9781394150120

Reference Textbook

- PROJECT MANAGEMENT: A Systems Approach to Planning, Scheduling, and Controlling, 13th edition, HAROLD KERZNER, Ph.D. Wiley, [2022], | ISBN 9781119805373 | ISBN 9781119805397

Homework:

This will be based on the course text and lecture. This is an individual effort and must be done without collaboration.

Homework will be submitted to the course NJIT canvas website before the day and time it is due with late submissions counted as a zero.

Exams:

- The exams are open book, open notes. You should write something for each question because partial credit is given.
- There will be one midterm and one final exam
- All exams will be "in-class" and "closed book"
- A missed exam will be counted as a zero

This Will be based on the course text and lecture. This is an individual effort and must be done without collaboration. Exams will be during a specified time interval and no make-up exams will be given unless a note is received by the instructor from the Dean of Students office.

Course Assessment Criteria

- Case Study and Participations, [20%]
- Attendance, [10 %]
- Midterm Exam [03/09/2023], [25%]
- Term project [04/27/2023], [15%]
- Final Exam [05/04/2023], [30%]

Your final grade in the class will be determined based on the summation of the number of points that you acquire. The following point spread corresponds to the following grade.

Total	< 50	50	65	75	85	90
Grade	F	C	C+	B	B+	A

Students with disabilities

Students with disabilities needing accommodations of any nature to have a fair opportunity to perform in the class need to contact the counseling center. Staff at the counseling center will determine what constitutes a reasonable accommodation and inform the instructor of what it is.

Academic Integrity

"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at
http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf Links to an external site.**.**

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing, or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu."

[Week], Date (2024)	**Topic / Reading Material**	Reading	Notes
[1] 01/20	Course Introduction and overview of course materials	Ch. 1	
[2] 01/27	Introduction to Project Control	Ch.2	
[3] 02/03	The Schedule	Ch.4	Identify Teams
[4] 02/10	The Budget	Ch.5	Team 1 Case Study Presentation
[5] 02/17	Integrating the Schedule and the Budget	Ch.6	Team 2 Case Study Presentation
[6] 02/24	Calculating and Analyzing Progress	Ch.7	Team 3 Case Study Presentation
[7] 03/02	Analyzing and Reporting Variances in Schedule and Cost	Ch.8	Team 4 Case Study Presentation
[8] 03/09	**Midterm Exam**		
03/16	**No Classes Spring Recess**		
[9] 03/23	Recognizing Trends and Forecasting Performance Productivity	Ch.9 Ch.10	Team 5 Case Study Presentation
[10] 03/30	Acceleration and Schedule Compression	Ch.11	Team 6 Case Study Presentation

[11] 04/06	Resource Management	Ch.12	Team 7 Case Study Presentation
[12] 04/13	Risk Management	Ch.13	Team 8 Case Study Presentation
[13] 04/20	Project Closeout	Ch.14	
[14] 04/27	Team Project Presentation		
[15] 05/04	**Final Exam**		