United States Naval Academy
Mechanical Engineering Department

Catalog Description: EM420 Project Management for Mechanical Engineers **Credit:** 3 (3-0-3)
Designation: Elective, engineering major

Project Management for Mechanical Engineers is an introduction to the fundamentals of project management. Topics include planning projects, schedules, budgets, resources, data analysis, project team dynamics, implementation, execution, performance measurement and closeout

Prerequisites: Engineering Major or approval of chair

Corequisites: None

Textbooks: Gido and Clements, Successful Project Management, 6th edition, South-Western College Pub, Required
Covey, The 7 Habits of Highly Effective People, Free Press, Required.

Course Director: CDR John Schedel

Course Content:

No.	Topic or Subtopic	hrs.
1	Engineering Economics	6
2	Needs Identification, RFP's, and Proposals	5
3	Project Execution	3
4	Risk Management	2
5	Planning, Scheduling, and Schedule Control	8
6	Project Management Software	2
7	Resource Management	2
8	Cost Planning and Performance	6
9	Team Dynamics, Personality Type, and Strengths	4
10	Leadership and Communications	8

Assessment Methods:

		YES	NO
A	Quizzes	X	
B	Homework	X	
C	Exams	X	
D	Laboratory Reports		X
E	Oral Presentations		X
F	Design Reports/Notebooks		X
G	Prototypes/Demonstrations		X
H	Projects	X	
I	Other		X

Course Outcomes[1]:

1. Discuss the activities and milestones for each of the four stages of projects: needs identification, proposed solutions, project execution, project termination.
2. Understand the Request For Proposal (RFP) and Proposal processes. Understand the main components of a project proposal, including technical, management and cost sections, as well as the bid / no-bid process.
3. Apply decision-making and analysis tools to the selection of a winning proposal or other project management decision.
4. Create a Work Breakdown Structure and a Network Diagram for a project, showing the organizational structure and activity dependency relationships for a project.
5. Perform Network Scheduling techniques to determine the early start time, early finish time, late start time, late finish time and slack for each activity. Identify the Critical Path for a project.
6. Understand and apply the interpersonal skills necessary to lead and manage highly effective project teams.
7. Perform Schedule Control techniques to make changes to a schedule once actual finish times have been implemented, including time-cost trade-off methods as well as project crashing.
8. Create and track a budget for a project, including Cumulative Budgeted Cost, Cumulative Actual Cost and Cumulative Earned Value at each reporting period. Calculate the Forecasted Cost At Completion for a project that is in work.
9. Discuss roles and responsibilities of the project manager as well as the project team throughout the life of a project, including the importance of communication and documentation to project success.

	Course Outcomes								
Program Outcomes	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(a)			X	X	X		X	X	
(b)		X	X		X		X	X	
(c)	X	X		X				X	
(d)		X				X			X
(e)	X	X	X		X		X	X	
(f)						X			X
(g)		X				X			X
(h)		X	X					X	
(i)						X			X
(j)									
(k)	X	X	X	X	X		X	X	

Date of Latest Revision: 01 NOV 2017, CDR John Schedel