DEPARTMENT OF MECHANICAL AND INDUSTRIAL ENGINEERING
MECHANICAL ENGINEERING PROGRAM, BSC.

Course Syllabus

1. **Course number and name**
   IE 561 Project management

2. **Credits and contact hours**
   (3+0) 3 credit hours, 3 contact hours

3. **Course type**
   Face to face Learning Course (2+1)

4. **Instructor's or course coordinator's name**
   Dr. Hanan Saleet

5. **Textbook information**
   Project management: the managerial process. Gray, C.F. and Larson, E. W., McGraw-Hill/Irwin

   a. **Other supplemental materials**

   Project management: a managerial approach. Meredith, J.R. and Mantel Jr, S.J., John Willey & Sons Inc.
   - Instructor's Notes

6. **Specific course information**
   a. **Catalog description**
      Introduction to project management. Project life cycle: initiation, project selection, organization, planning and negotiation, implementation (budgeting, scheduling, resource allocation and control) and termination. Feasibility study. Application of CPM techniques in networks for project planning, monitoring, control and resource allocation. Risk management.
   b. **Prerequisites or co-requisites**
      co-requisites: Operations research (1) 803330
   c. **The course is:**
      Required in Industrial Engineering program.

7. **Specific goals for the course**
   a. **Course outcomes:**
      After completion of the course, students are expected to be able to:
   CO-(1): Illustrate how to analyze the project network
   CO-(2): Identify the alternatives for crushing the project duration
   CO-(3): Design resources for a project

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b. The following student outcomes are addressed by the course:

SO-(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

SO-(g) an ability to communicate effectively

SO-(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context

SO-(pc-3) ability to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy using appropriate analytical, computational, and experimental practices

8. Learning Outcomes and their Alignment with Program Educational Objective (PEO's), Methods of Delivery, and Assessment Methods:

Learning Outcomes	Program PEOs	Method of Delivery	Assessment Method
Course Outcomes			
CO-(1): Illustrate how to analyze the project network	-	Lectures (Example and Problems)	Exams
CO-(2): Identify the alternatives for crushing the project duration	-	Lectures (Example and Problems)	Assignment
CO-(3): Design resources for a project	-	Lectures (Example and Problems)	Project
Student Outcomes			
SO-(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	2	Lectures (Example and Problems)	Midterm Exam
SO-(g) an ability to communicate effectively		Term Project	Term Project-Part 1

SO-(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context		Lectures (Example and Problems)	Midterm Exam
SO-(pc-3) ability to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy using appropriate analytical, computational, and experimental practices	1	Term Project	Term Project-Part 1

9. Weekly Teaching Plan

Week	Lecture	Topic	Method of Delivery
	Lec_1	Chapter 1 Modern Project Management	Lecture
	Lec_2	The Project Life Cycle	Lecture
1	Lec_3	The Importance of Project Management	Lecture
	Lec_4	Project Management Today	Lecture
	Lec_5	Chapter 4 Defining the Project	Lecture
2	Lec_6	Step 1: Defining the Project Scope	Lecture
	Lec_7	Step 2: Establishing Project Priorities	Lecture
	Lec_8	Step 3: Creating the Work Breakdown Structure	Lecture
3	Lec_9	Step 4: Integrating the WBS with the Organization	Lecture
	Lec_10	Step 5: Coding the WBS for the Information	Lecture
	Lec_11	Step 5: Coding the WBS for the Information	Lecture
4	Lec_12	Responsibility Matrices	Lecture
	Lec_13	Project Communication Plan	Lecture
	Lec_14	Summary	Lecture
5	Lec_15	Chapter 6 Developing a Project Plan	Lecture
6	Lec_16	Developing the Project Network	Lecture

	Lec_17	Developing the Project Network	Lecture
	Lec_18	From Work Package to Network	Lecture
	Lec_19	Constructing a Project Network	Lecture
	Lec_20	Determining Slack (or Float)	Lecture
7	Lec_21	Using the Forward and Backward Pass	Lecture
	Lec_22	Calendar Dates	Lecture
	Lec_23	Chapter 7 Managing Risk	Lecture
8	Lec_24	Risk Management Process	Lecture
	Lec_25	Step 1: Risk Identification	Lecture
	Lec_26	Step 2: Risk Assessment	Lecture
9	Lec_27	Step 3: Risk Response Development	Lecture
	Lec_28	Step 4: Risk Response Control	Lecture
	Lec_29	Chapter 8 Scheduling Resources and Costs	Lecture
10	Lec_30	Types of Resource Constraints	Lecture
	Lec_31	Classification of a Scheduling Problem	Lecture
	Lec_32	Resource Allocation Methods	Lecture
11	Lec_33	Time-Constrained Project: Smoothing Resource	Lecture
	Lec_34	Resource-Constrained Projects	Lecture
	Lec_35	The Impacts of Resource-Constrained Scheduling	Lecture
12	Lec_36	Splitting Activities	Lecture
	Lec_37	Benefits of Scheduling Resources	Lecture
	Lec_38	Creating a Time-Phased Budget	Lecture
13	Lec_39	Chapter 9 Reducing Project Duration	Lecture
	Lec_40	Rationale for Reducing Project Duration	Lecture
	Lec_41	Options for Accelerating Project	Lecture
14	Lec_42	Using the Project Cost–Duration Graph	Lecture
	Lec_43	Crash Times	Lecture
	Lec_44	Choice of Activities to Crash Revisited	Lecture
15	Lec_45	Time Reduction Decisions and Sensitivity	Lecture

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10. Grade Distribution:

Assessment	Grade	Week No.
- First Exam	20%	
-Second Exam	15%	
-Assignments (Reports /Quizzes/ Seminar / Tutorials/ Home works ….)	15%	1-16th Week
- Final Examination	50%	16th Week

Note: Make-up exams will be offered for valid reasons. It may be different from regular exams in content and format.