

<b>Course:</b>	<b>Construction Management – 403474</b> (3 Cr.H Core course)
<b>Catalog Data:</b>	Project management; functions, life cycle, project personnel, phases, time management project work plan, planning methods, project tracking, schedule updating, resource allocation, project crashing, project cash flow diagram and forecasting of a contract.
<b>Prerequisites by Course</b>	403373, co requisite 403472
<b>Prerequisites Textbook:</b>	Engineering economy, construction contracts, cost estimating and quantity take-off Jimmie W. Hinze, (2008) "Construction Planning and Scheduling", Fourth Edition. Pearson, Prentice Hall; (August 19, 2003). ISBN: 0130928615.Ohio
<b>References:</b>	Halpin, D., (2011) "Construction management", Fourth Edition, John Wiley & Sons Inc
<b>Course website</b>	None
<b>Schedule &amp; Duration:</b>	<b>16 weeks, 48 lectures, 60 minutes each (including exams)</b>
<b>Min. Stu. Material:</b>	Text e-book, knowledge of Moodle & Google classroom (code: s2zufmg), course handouts, and calculator
<b>Min. Facilities:</b>	Classroom with white board, computer lab with P8.1 software, library
<b>Course Objectives (PEO's):</b>	<p><b>Assume progressive leadership and influential roles in the market, business, and the industry</b></p> <p><b>Role model professionals through effective communication, team work, ethics, and proactive involvement</b></p> <p><b>Distinguished professional engineers locally and internationally in the design and delivery of state-of-the-art technologies, systems, services, or projects</b></p> <p><b>Contribute to cutting edge solutions, instill creativity, critical thinking and innovation</b></p>

**ILO's and Relation to PEO's & ABET SO's**

Students who successfully complete this course will be able to master the following <b>Intending Learning Outcomes:</b>	<b>Relations to PEO</b>	<b>Relations to SOs</b>
Application skills - with ability to Use Primavera version 6.8-3 software. Ability to solve scheduling problems, apply mathematical models in project management cases for specific objectives;	<b>4</b>	<b>1</b>
Analysis skills – with ability to Automate as much as possible an engineering scheduling and management problem on EXCEL. Be able to research information and data. Skills of developing data Tables, Charts, and Graphs. Evaluate Skills - with ability to evaluate multiple projects and prioritize them; and to compare and contrast tools and models and areas of application within an engineering context. Evaluate results against ethics consideration.	<b>1&amp;3&amp;4</b>	<b>6</b>
Create skills – with ability to Design a project schedule, data collection process, market survey, culminated with analysis results and establishment of management related decisions.	<b>1&amp;3&amp;4</b>	<b>4</b>
	<b>3&amp;4</b>	<b>2&amp;5&amp;7</b>

**Course Topics**

Topic	Weeks	ILO's	Asses.
Syllabus, Course Schedule; Chapter 1: Introduction	1	3	Assignments, Quiz, Exam 1
Chapter 1: Project Management, OBS, Job activities and logic, WBS Chapter 2: Developing a network model. Chapter 3: Performing time calculations with precedence diagrams (AON)	2-5	2	Assignments, Quizzes, Exam 1
Chapter 15: PERT: program evaluation and review technique. Chapter 8: Crashing Project Time Chapter 8: Scheduling with Primavera version 6.8.3 Chapter 7: Scheduling with resources- constrained resources	6-10	1	Lab Sessions, Assignments, Quizzes, Exam 2, Final Exam
Chapter 10: Earned Value Analysis Chapter 11: Effects of Learning on Production. Chapter 14: Line of Balance for Scheduling Repeating Processes. Chapter 16: Method Productivity Delay Model <b>Final exam</b>	11-15	1, 3, 4	Assignments, Quizzes, Final Exam

**Computer Usage**

Primavera 8.3, loaded in the Networks Computer Lab

**Attendance**

Class attendance will be taken every class and the university's policies will be enforced in this regard

**Grading policy**

Midterm exam 35%  
Class work 15%  
Final exam 50%

**Instructors**

Coordinator: Dr Moawiah A. Alnsour  
Office hours: Thursday 3-4pm

**Class time and location**

11.00 – 12.00 Sun, Tues, Thu,  
Engineering Building 4216

Student Outcomes (SOs) found online at ABET.ORG website.

(1)	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
(2)	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
(3)	An ability to communicate effectively with a range of audiences
(4)	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
(5)	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
(6)	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
(7)	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

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