The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	Construction Planning and Scheduling	**Course Number:** 110401541	
Designation:	Elective	**Prerequisite(s):** 110401346	
Instructor:	Dr. Maha Alkasasbeh	**Instructor's e-mail:** malkasasbeh@hu.edu.jo	
Office Hours:	9:00 – 10:00 Sun., Tue.& Thurs.		

Course Description (catalog): The construction industry is always facing the challenge of delivering a project on time, with high quality, within budget, and in a safe environment. Effective construction planning and scheduling is critical for addressing this challenge. The purpose of this course is to provide the students with the necessary skills to adequately schedule and control building construction projects.

Textbooks:

Hinze, J. "Construction Planning and Scheduling", 4th Edition, Prentice Hall, 2012

Weber, S. "Scheduling Construction Projects Principles and Practices", 2005, Prentice Hall, Columbus, Ohio.

Major Topics Covered:

Topics	No. of Weeks	Contact hours*
Introduction to Planning & scheduling, introduction to planning and scheduling techniques, Work Breakdown Structure (WBS), Standard classification systems.	2	6
Developing a network model, Bar charts, Histograms and s-curves, Precedence network models for different relationship types. (Activity on Node (AON), Activity On Arrow (AOA))	3	9
Time-cost tradeoff, Activity cost theory.	3	9
Resource Allocation and Resource Leveling.	3	9
Project Monitoring and Control, Linear scheduling method (LSM), Program Evaluation and Review Technique (PERT).	2	6
Earned value concept and report project status.	2	6
Total	**15**	**45**

*Contact hours include lectures, quizzes and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

After completing the course, the student will be able to:

- **CLO1**: Become familiar with the planning and scheduling concepts, construction activates with their different relationships, Breakdown Structure (WBS), Standard classification systems. (**1,7**)
- **CLO2:** Perform a network models, resource allocation and resource leveling techniques, time-cost tradeoff techniques, Linear Scheduling Method (LSM), Program Evaluation and Review Technique (PERT), and Earned value concept and report project status. (**1, 7**)

Student Outcomes (SO) addressed by the course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(1)	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.	H(50%)
(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.	H(50%)
H=High, **M**= Medium, **L**=Low		

Grading Plan:	First Exam	30 Points	**Wednesday, 29/3/2023 2006, 2015**	**11:30am-1pm**
	Second Exam	30 Points	**Wednesday, 10/5/2023 2017, 2019**	**11:30am-1pm**
	Final exam	40 points		

General Notes: Beware of Plagiarism: copying and handing in for credit someone else's work.
Any plagiarism case will result in an automatic 'F' for the course.

Prepared by: Dr. Maha Alkasasbeh **Date:** 13th February 2023