The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	Construction Methods	**Course Number:**	110401542
Designation:	Elective	**Prerequisite(s):**	110401337
Instructor:	Dr. Mohammad Almashaqbeh	**Instructor's e-mail:**	mohammad1@hu.edu.jo
Office Hours:	11:00 – 12:00: Sun., Tue.& Thurs.		

Course Description: Study of construction operations as dynamic production processes. Earthmoving materials and operation, excavating and lifting, loading and hauling operations, compacting and finishing, paving and surface treatment operations, measuring and improving productivity, construction equipment economics.

Textbook:

Nunnally, S. W. (2008) "Construction Methods and Management." Eighth Edition, Pearson Prentice Hall.

Other Supplementary Materials:

- Gransberg, D., Popescu, C., and Ryan, R., "Construction Equipment Management for Engineers, Estimators, and Owners", 2006, (ISBN -10: 0-8493-4037-3). Taylor and Francis
- Purifoy, R.; Schexnayder, C., and Aviad, S., Construction Planning, Equipment, and Methods, seventh edition, 2006. McGraw Hill.

Major Topics Covered:

Topics	No. of Weeks	Contact hours*
Introduction	1	3
Earthmoving Materials and Operation	1	3
Excavating and Lifting	2	6
Loading and Hauling	3	9
Compacting and Finishing	1.5	4.5
Improving Productivity and Performance	2	6
Rock Excavation	1	3
Production of Aggregate, Concrete, and Asphalt Mixes	1	3
Paving and Surface Treatments	1.5	4.5
Construction and Equipment Safety	1	3
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**: To study and become familiar with the types and functions of common construction equipment. (**1**).
- **CLO2:** To understand how to estimate production rates of various types of construction equipment. (**1, 6**)
- **CLO3**:To understand and become familiar with tools used to measure construction productivity and work improvement techniques. **(1, 6).**

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.	H(50%)
(7)	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	
H=High, **M**= Medium, **L**=Low		

Grading Plan:	First Exam	30 Points	**Thursday, 17/11/2022**
	Second Exam	30 Points	**Thursday, 22/12/2022**
	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. Mohammad Almashaqbeh **Date:** 11th September 2022