The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	Hydraulics	**Course Number:**	110401356
Designation:	Compulsory	**Prerequisite(s):**	
Instructor:	Dr. Zeyad Tarawneh	**Instructor's e-mail:**	zeyadt@hu.edu.jo
Office Hours:	Refer to posted time table.		
Class schedule:	3 hours per week		

Course Description (catalog): hydraulics is a basic civil engineering course that enables CE students to analyze and design various hydraulic systems related to water like open channels, pressurized pipes and pumping stations. Topics related to uniform and non-uniform flow characteristics, best hydraulic section, energy applications, flow under varying head, pumps and pumping stations will be covered.

Textbook: Understanding Hydraulics: Hamill L. 2001, Second Edition, Polgrave.

Major Topics Covered:

Topic	No. of Weeks	Contact hours*
Ch. 1 - 5: Review on Fluids	1	3
Ch. 8: Flow in Open Channels.	7	21
Ch. 6: Flow in Closed Conduits (pressurized pipes)	3	9
Ch. 7: Flow under Varying Head	1	3
Ch. 11: Hydraulic Machines	2	6
Exams	1 (1st+2nd+final)	3
Total	**15**	**45**

*Contact hours include: lectures and exams.

Specific Outcomes of Instruction (Course Learning Outcomes):
After completing the course, the student will be able to:
- Understand and solve civil engineering problems related to flow in open channel and pressurized systems; flow under varying head and pumping stations (**Outcome e**).
- Design of open channels, pressurized conduits and pumping stations (**Outcome c**).

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
(a)	an ability to apply knowledge of mathematics, science, and engineering	
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(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	L (30%)
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	H (70)%
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	
	H= High, **M**= Medium, **L**= Low	

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Grading Plan:	1st Exam	30 Points	**Tues. 27/2/2018 [10:00 - 10:50]**
	2nd Exam	30 Points	**Tues. 3/4/2018 [10:00 - 10:50]**
	Final Exam	40 Points	Will be announced by the registrar

General Notes: **HU attendance rules will be applied.**
Prepared by: **Dr. Zeyad Tarawneh** **Date: 31/1/ 2018**