

TISHK INTERNATIONAL UNIVERSITY FACULTY OF ENGINEERING Department of CIVIL ENGINEERING, 2020-2021 Spring Course Information for CE 328 HYDRAULICS II					
Course Name:		HYDRAULICS II			
Code	Regular Semester	Theoretical	Practical	Credits	ECTS
CE 328	6	3	-	3	
Name of Lecturer(s)- Academic Title:		Thamir Ahmed - Ass. Prof.			
Teaching Assistant:		-			
Course Language:		English			
Course Type:		Main			
Office Hours		4			
Contact Email:		thamir.ahmed@tiu.edu.iq			
		Tel:07508867963			
Teacher's academic profile:		hydraulics			
Course Objectives:		The major aim of this course is to introduce the students to the hydraulics of pumps and how to select a pump for a specified operation condition. Also; the main sources of water such surface water,ground water which both related to the intensity of rainfall and the features of soil surface and ground topography will be taught in this course.The course will also include the method used in measuring the rainfall , estimation the amount of surface runoff and discharge of water could be released from wells.The storage of water in reservoirs ,lakes and tanks are also considered.			
Course Description (Course overview):		Open channels, types, conditions, and systems flow in open channels, geometric elements of open channels, velocity distribution in the section of the channel, velocity measurement in open channels, Factors of velocity distribution, pressure distribution in the channels, the effect of slope channel in the distribution of pressure, the principles of energy and momentum in the open channels, specific energy channels in the variable section, and its applications, and critical flow equations, calculate the critical flow, flow measurement of flow using the principles of critical flow equations, Uniform and steady equations, solving problems of the uniform flow, solving problems of the variable flow gradually and equations.			
COURSE CONTENT					
Week	Hour	Date	Topic		
1	3	31/1-4/2/2021	Introduction		
2	3	7-11/2/2021	Principles of flow in networks		
3	3	14-18/2/2021	Networks without external devices		
4	3	21-25/2/2021	Applications		
5	3	28/2-4/3/2021	Networks with valve ,turbine and pump		
6	3	7-11/3/2021	Applications		
7	3	28/3-1/4/2021	Principles of Pumps		
8	3	4-8/4/2021	Single Pump		
9	3	11-15/4/2021	Midterm Exam		
10	3	18-22/4/2021	Midterm Exam		
11	3	25-29/4/2021	Pumps In series and Parallel		
12	3	2-6/5/2021	Applications		
13	3	9-13/5/2021	Dimensional Analysis		

14	3	16-20/5/2021	Applications
15	3	23-27/5/2021	Flow in Open Channels
16	3	30/5-3/6/2021	Applications
17	3	6-10/6/2021	Final Exam
18	3	13-17/6/2021	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

- 1 Pipes Networks
- 2 Pumps
- 3 Dimensional Analysis
- 4 Flow in Open Channels

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

Program Learning Outcomes

	Cont.
1 Apply principles of mathematics, science, and engineering	P
2 Design and conduct experiments, as well as analyze and interpret data accurately.	P
3 Design an engineering system, component, or process to meet desired industrial needs.	P
4 Identify, formulate and solve complex engineering problems	P
5 Apply, in design and construction, the most modern design codes, standards and specifications such as; AISC, ACI, ASCE 7, IBC, etc.	P
6 Use the techniques, skills, and modern engineering tools, such as surveying instruments, and designing software that are necessary for engineering practices.	P
7 Apply knowledge and skills in construction project management and recognition of international standards and methodologies	P
8 Manage to work with multi-disciplinary teams and communicate effectively.	P
9 Identify the moral values that ought to guide the Civil Engineering profession and resolve the moral issues in the profession.	P
10 Apply the principles of sustainable development in their professional duties which go in line with the paramount safety, health and welfare of the public.	I
11 Analyze the impact of engineering solutions in a global and social context	I
12 Identify the need and have the ability to engage in lifelong learning and knowledge of contemporary issues.	I

Prerequisites (Course Reading List and References):

Fluid Mechanics Hydraulics I

Student's obligation (Special Requirements):

1-Attende the class 2-Effective participation 3-carry out class works 4-Carry out Exams

Course Book/Textbook:

Hydraulics for Civil Engineering

Other Course Materials/References:

Hydraulics Handbook

Teaching Methods (Forms of Teaching):

Lectures, Excersises, Self Evaluation, Assignments

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Attendance	1	5
Participation	1	5
Quiz	2	10
Midterm Exam(s)	1	30
Final Exam	1	40
Total		100

Examinations: Essay Questions, True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching

Extra Notes:**ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	18	3	54
Practical Hours	18	0	0
Final Exam	1	20	20
Attendance	1	20	20
Participation	1	6	6
Quiz	2	10	20
Midterm Exam(s)	1	12	12
Total Workload			132
ECTS Credit (Total workload/25)			5.28

Peer review

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean