



The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus



Course Title:	Surface Water Hydrology	Course Number:	110401551
Designation:	Elective	Prerequisite(s):	110401454
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): Surface water hydrology is an advanced civil engineering course upon which CE students will be able to conduct advanced computations related to surface water quantities from rainfall or snow melt. Topics related to hydrologic measurements (precipitation and streamflow) hydrologic analysis (UHs and flow routing), advanced hydrologic statistics and frequency analysis, hydrologic design, floods and droughts, urban hydrology, hydrologic simulation models will be addressed.

Textbook(s) and/or Other Supplementary Materials: Applied Hydrology. Chow et al. (1988), 1st edition, McGraw-Hill.

Supplementary1: Introduction to hydrology. Viessman W. (2002), 5th edition, Prentice Hall.

Supplementary2: Hydrology and floodplain analysis. Bedient P. (1992), 2nd edition or latest, Addison-Wesley.

Major Topics Covered:

Topic	No. of Weeks	Contact hours*
Ch. 6: Hydrologic measurements.	1	3
Ch. 7 - 10: UHs and flow routing	3	9
Ch. 11 - 12: Statistical methods and frequency analysis.	3	9
Ch 13 -14: Hydrologic design	2	6
S 1: Extreme Floods and droughts (CH. 8)	1	3
S 2: Urban hydrology (CH. 6)	2	6
S 1: Hydrologic simulation models (CH. 12)	2	6
Exams (first + second)	1	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:

- conduct design issues related to storms, flows and storm sewer (**Outcome c**).
- figure out and solve engineering problems related to hydrologic systems (**outcome e**).

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
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	H
(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	



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(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	
H= High, M= Medium, L= Low		

Grading Plan:

1st Exam	30 Points	
2nd Exam	30 Points	
Final Exam	40 Points	Will be announced by the registrar

General Notes: HU attendance rules will be applied.

Prepared by: Dr. Zeyad Tarawneh

Date: 30/1/2018