

ABET course syllabus (Hydraulics Laboratory)

1. *Course number and name*  
0901363: Hydraulics Laboratory
2. *Credits and contact hours*  
1 Credit Hour
3. *Instructor's or course coordinator's name*  
Instructor: Khaldoun Shatanawi, Associate Professor of Civil Engineering  
Course Coordinator: Khaldoun Shatanawi, Associate Professor of Civil Engineering
4. *Text book, title, author, and year*
  - “A Manual for the Fluid Mechanics and Hydraulics Laboratory”, Version 1.2, (Prepared only for the civil engineering department/UOJ)
  - a. *other supplemental materials*
    - Houghtalen R., N. Hwang, A. Akan, Fundamentals of Hydraulic Engineering Systems, 4th edition, Pearson. (ISBN 978-0-13-507064-2).
5. *Specific course information*
  - a. *brief description of the content of the course (catalog description)*  
Center of pressure, triangular and rectangular notches, Venturi and orifice meters, impact of a jet, head loss in pipes, critical depth, turbulent pipe flow, centrifugal pumps, axial flow pumps, hydraulic jump, Pelton wheel, radial flow fan.
  - b. *prerequisites or co-requisites*  
Prerequisite: Hydraulics (0901362)  
Co-requisite: Hydraulics (0901362)
  - c. *indicate whether a required, elective, or selected elective course in the program*  
Required for Civil Engineering
6. *Specific goals for the course*
  - a. *specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*
    - The students will be able to understand and follow procedures, through lab manual.
    - The students will be able to work in teams, as experiments are conducted in groups.
    - The students will be able to prepare a technical report, as the findings of experiments have to be reported in well-structured format.
    - The students will be able to critically evaluate their results, by bench marking them with related published information.
    - The students will be able to appreciate how the theoretical concepts are applied in practice.
    - The students will be able to understand how results of a practical are influenced by the status of the apparatus.

b. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course.*

Course addresses ABET Student Outcome(s): b, g

7. *Brief list of topics to be covered*

- Center of Pressure on Submerged Plane Surface
- Impact of a Jet
- Turbulent Pipe Flow
- Flow over a Venturi and Orifice Meter
- Head Loss in Pipelines
- Specific Energy and Critical Depth using Sluice Gate
- The Hydraulic Jump
- Sluice Gate
- Flow over a Rectangular and Vee Notches

8. *Office Hours*

Sunday, Thursday 11:00 am to 12:00 pm.

9. *Evaluation*

Lab. Reports	30 %
Midterm Exam	30 %
Final Exam	40 %

10. *Attendance and Course Policies*

- Attendance is mandatory and will be checked. All students are expected to attend the lab. More than 1 absences will earn you a grade of F.
- All cellular phones must be turned off before lab begins.
- Talking to a fellow student while the lecture is in progress will not be tolerated. You will be asked to leave the lab if this behavior is disruptive.
- No late submission will be accepted. Missing reports will result in a zero grade.
- There is no makeup lab.
- Cheating is not tolerated. A student guilty of cheating will receive a zero grade. Cheating is any form of copying of another student's work, or allowing the copying of your own work.