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)
   - Other supplemental materials

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
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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.