College: Engineering Department: Civil

Course Title: Environmental Engineering Laboratory

Course No: 0901409

Credit Hours: 1Hours

Semester: First

About The Course

Course Title: Environmental Engineering Laboratory Class: HYD. Lab
Course No: 0901409
Credit Hours: 1 Lecture Room: HYD. Lab

Obligatory/ Optional: Obligatory
Text Book: environmental engineering, P. Venugopala, 2013

The Instructor

Name: Talal Masoud
Title: Full time lecturer

Office Tel:
Office No: 104 Office Hours: Sun, Thu.: 8-11
Mon., Wed: 9.30-11

E-male: Dr.talalmasoud@outlook.com

Course Description

This laboratory course is designed to provide insight and experience into the fundamental principles taught in environmental engineering course. These principles include: Solid determination; determination of pH ; Ammonia nitrogen ; Nitrite nitrogen; Determination of water Hardness ; Biochemical Oxygen Demand ; Turbidity determination ; Jar-Testing ; determined of dissolved oxygen; determination of COD in water and odor and color determination

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Course Objectives

- Students are able to apply knowledge of engineering
- Students are able to design and conduct experiments
- Students are able to analyze and interpret data
- Students are able to work cooperatively and Students are able to apply knowledge of engineering

Learning Outcome

After successfully completing this course, the students should be able to understand environmental engineering Laboratory.

Course Outline and Time schedule

Week	Course Outline
First week	These principles include: Solid determination
2nd week	determination of pH

3rd week	Ammonia nitrogen
4th week	Nitrite nitrogen
5th week	Determination of water Hardness
6th week	Biochemical Oxygen Demand
7th week	**Midterm Exam**
8th week	Jar-Testing
9th week	determined of dissolved oxygen
10th week	determination of COD in water and odor and color
11th week	**FINAL EXAM**

Presentation methods and techniques

Methods of teaching varied according to the type of text, student and situation. The following techniques are usually used:

1- Lecturing with active participations.
   Involve the civil engineering students in asking some questions related to the target topic of the course.
2- Problem solving.
   Encourage the students to solve the given assignments and submit them at the definite time,
3- Cooperative learning.
   By enhancing the students studying in groups .
4- Discussion.
   To discuss the results and the answers of the target problems.
5- Learning by activities.
   To encourage the students to some group activity.
6- Connecting students with different sources of information.

Sources of information and Instructional Aids

- Computer softwear … power point
- Using weight board.

Assessment Strategy and its tools

The assigned syllabus is assessed and evaluated.
Through: feedback and the skills that are acquired by the students
The tools:

- Assignments: 10%
- Attendance: 10%
- Term Tests And report: 20 +20%
- Final Examination: 40 %

Tool & Evaluation

Tests are permanent tools & assessment, in addition to the activity file which contains curricular and the co-cussiculor activities, research, report papers and the active participation of the student in the lecture.

The following table clarifies the organization of the assessment schedule:

Test	Date	Grade
Midterm		20
Activities & Participation	Students should be notified about their marks	40
Final Exam		40

Activities and Instructional Assignment

1- Practical assignments to achieve the syllabus objectives.
2- Group Activity and demonstrations.

Regulations to maintain the teaching-Learning Process in the Lecture:

1- Regular attendance.

2- Respect of commencement and ending of the lecture time.

3- Positive relationship between student and teacher.

4- Commitment to present assignments on time.

5- High commitment during the lecture to avoid any kind of disturbance and distortion.

6- High seuse of trust and sincerity when referring to any piece of information and to mention the source.

7- The student who absents himself should submit an accepted excuse.

8- University relevant regulations should be applied in case the students behavior is not accepted.

9- Allowed Absence percentages is (%).

References:

1. - Handbook of environmental engineering, Lawrence K. Wang and Norman C. Pereira, 2004in my Office

Syllabus Classification

Objectives	***Learning outcome***	***Assessment tools***
1-	Students are able to apply knowledge of engineering	By using solved problems. Power point and weight board
2-	Students are able to design and conduct experiments	By using solved problems. Power point and weight board
3-	Students are able to analyze and interpret data	By using solved problems. Power point and weight board
4-	Students are able to work cooperatively and Students are able to apply knowledge of engineering	By using solved problems. Power point and weight board