

Course Description Form

1. Course Name:	
Sanitary and Environmental Engineering-I	
2. Course Code:	
CIV41107	
3. Semester / Year:	
First / Fourth	
4. Description Preparation Date:	
1 September 2025	
5. Available Attendance Forms:	
Class	
6. Number of Credit Hours (Total) / Number of Units (Total)	
4/3	
7. Course administrator's name (mention all, if more than one name)	
Asst. Lect. Aya Luay Khalil aya.luay@muc.edu.iq	
8. Course Objectives	
Course Objectives	Graduation of civil engineers qualified to work in their various fields of specialization: 1. Providing the student with the necessary skills and mechanisms to deal with the latest developments in scientific and technical progress in their field of specialization. 2. Special care for outstanding students and enabling them to put forward their ideas. 3. Providing the student with high skill and the ability to solve problems and teamwork. 4. - Instilling the spirit of diligence and perseverance and encouraging them to create and innovate.
9. Teaching and Learning Strategies	
Strategy	Introduce students to definition of foundation design. • Self-regulated learning (i.e., planning, monitoring and evaluating one's own learning process in the classwork / Class team work). • Practice testing (short question answers and exams). • Self-explanation (i.e., explaining to oneself how new information is related to old information or explain steps taken when solving a problem or a task).

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1.	4	Forecasting population	Population prediction	Theoretical+ laboratory	Several Ways (Exams + Assignments)
2.	4	Fire demand	Water demand	Theoretical + laboratory	Several Ways (Exams + Assignments)
3.	4	Introduction	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
4.	4	Quality of water supplies and collection of water (intakes)	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
5.	4	Water treatment (screens, principles of sedimentation)	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
6.	4	Hindered settling, scour, sedimentation tank details	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
7.	4	Coagulation, coagulation reaction	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
8.	4	Mixing , flocculation	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
9.	4	Filtration of water	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
10.	4	Mid-term exam			
11.	4	Disinfection of water	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
12.	4	Water softening	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
13.	4	Pumps	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
14.	4	Distribution systems (types of pipes, flow in pipes)	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)
15.	4	Distribution methods and design	Water Treatment Plant	Theoretical + laboratory	Several Ways (Exams + Assignments)

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

1. Course cumulative:
 - a. Assignments: 10
 - b. Quizzes: 10
 - c. Midterm Exams: 10
 - d. Reports: 10
 - e. Projects / Lab.: 10

2. Final Exam: 50

1. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	
Main references (sources)	Water Supply and Treatment, Steel and McGhee, sixth edition, McGraw-Hill, 1991.
Recommended books and references (scientific journals, reports...)	Water Works Engineering, Qasim et. al., prentice-Hall, 2000.
Electronic References, Websites	