

Theoretical and practical course plan form - Ilam University of Medical Sciences

School: Health

Introduction to the lesson

Department: Environmental Health

Course Title: Water Transmission and Distribution Systems

Students: Environmental Health Engineering Prerequisite Courses: Fluid Mechanics Venue: School of Health Name of course manager (instructor): Dr. Sajjad Mazloumi

Number of credits: 2

Teaching time:

Degree of students: Bachelor

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General purpose of the lesson:

At the end of this course, students will be familiar with issues and challenges and social needs in terms of water supply, transmission and distribution to be able to design a distribution network in a consortium with a minimum population of 20,000 people.

Lecturer's study resources:

- Twort C.A., Ratnayaka D.D., and Brandl M.J. Water Supply TWA publishing (2000)
- Mark J. Hammer Jr., Water and Wastewater technology. Printic Hill
- Terence J. McGhee, Water Supply and sewerage. McGraw-Hill, 1991
- 1. Publications of the Management and Planning Organization in connection with the design criteria of transmission lines, storage tanks and water distribution network.
- 2. Urban water distribution networks, Dr. Amir Taebi, Dr. Mohammad Reza Chamani, Isfahan University of Technology Publications, 2000.
- 3. Hydraulic analysis of water distribution networks, translated by: Dr. Amin Alizadeh, Dr. Mahmoud Naghibzadeh, Engineer Jalal Joshesh, Astan Quds Razavi Publications

Student Exam Resources:

- Twort C.A., Ratnayaka D.D., and Brandl M.J. Water Supply TWA publishing (2000)
- Mark J. Hammer Jr., Water and Wastewater technology. Printic Hill
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- Publications of the Management and Planning Organization in connection with the design criteria of transmission lines, storage tanks and water distribution network.

-Urban water distribution networks, Dr. Amir Taebi, Dr. Mohammad Reza Chamani, Isfahan University of Technology Publications, 2000.

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How to evaluate a student during the course:

• Methods and time of assessment and evaluation of the student and the bar related to each evaluation:

Method	Score	Date	Time
performing project	6	During semester	Scheduled training hours
End of term exam	14	End of semester	Scheduled training hours
Total	20		

Student assignments during the course:

- Solve the exercises presented in class
- Participate in answering course questions
- Participate in the evaluations of each session and solve assignments
- Complete and complete the curriculum step by step

Teaching methods and teaching aids used

The teaching method in this course will be in the form of group discussion, problem solving, question and answer and using magic and whiteboard as well as using other educational media as needed.

Lesson rules and expectations from students

- 1- Attending the class on time and based on the set time
- 2- Observance of training and disciplinary regulations
- 3- Studying the contents of the previous session and preparing to attend the class
- 4- Solve problems at home and answer on the due date
- 5- According to the educational regulations, unjustified absence in the final exam will be considered as a score of zero and justified absence will cause the removal of that course.

Schedule of fluid mechanics curriculum for the first semester of the academic year 2020-2021

Session	Specific Objectives (Outline	Specific behavioral goals	Lecturer	Necessary preparation of students before the start of the class
1	Lesson statement, teaching method, assessment method, expectations, general classroom	The student gets acquainted with how to manage the program class,	Dr. Mazloumi	

	rules	the objectives of the topic, and the teaching and evaluation method		
2	Determining the amount of per capita consumption and consumption changes	The student calculates the water needs of a community.		review the contents of the previous session
3	Determining the project period, population forecasting methods in the project	Students learn the basics of population forecasting with various examples.		
4	General considerations on water transmission lines, route selection and various water transmission options	Students can design water transmission lines and choose the technically and economically appropriate option.		
5	Familiarity with different materials used in water transmission and distribution facilities and criteria and criteria for selecting pipes, fittings and valves	Students know the types of water supply pipes and their usage conditions. Name the types of connections and functional materials and know their use.		
6	Familiarity with the principles of unstable flow in transmission lines and methods of controlling its effects in pipelines	Reynolds number expresses ram stroke and ways to control pressure.		
7	Technical criteria in designing transmission lines and water distribution networks	Students know the design criteria for distribution networks and water transmission lines.		
8	Selecting the construction site of tanks, ground and air, volume and technical points in the design of tanks	Students can name the principles of ground and air tank design and calculate the required volume.		
9	Principles of water distribution, types of distribution networks and flow motion equations in rings	Students can state the principles of distribution networks and identify the type of distribution. Balance the pressure and current in the network.		
10	Principles and basis of calculations of water distribution networks, Principles of calculations of branch water distribution networks, Principles of calculations of circular distribution networks	Students can design a branch and ring distribution network and balance the pressure and flow in the network.		
11	Software used in network analysis and how it is used for students	Students are introduced to and run AutoCAD software and how to read		

		maps, loop and water jet.		
12	Student progress report on the design of the water distribution network in a coded and scaled map	Students design and deliver the proposed project, which includes a transmission line and distribution network, with scaled drawings. They also resolve ambiguities in various meetings		
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17	End of semester exam			