

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

School: Health

Introduction to the lesson

Department: Environmental Health

Course Title: Surface and groundwater hydrology of students:

Environmental Health Engineering

Prerequisite Courses:

No Venue:

School of Health in charge of the course (teacher):Dr. Seyed Abbas Mirzaei

Number of units: 2 theoretical

Teaching time:

Sunday 16-14 Students'

Degree: Bachelor

Email Address:Mirzaee.seyyed@gmail.com

General objectives of the lesson:

Familiarity of students with the basic concepts and techniques of hydrology and their important applications in the field of environmental health so that students can understand the basic concepts in preparing and evaluating the chapters related to hydrology in water supply projects; Participate in wastewater disposal and environmental health issues related to hydrology.

Student Exam Resources:

Alizadeh, Amin (2003), "Principles of Applied Hydrology" Astan Quds Razavi Publications

Ven Te Chow et al. (1988) "Applied Hydrology" MAC Graw-Hill USA

Afshar Abbas (1362), "Engineering Hydrology" Tehran University Publishing Center

Najmaei Mohammad (1990), "Engineering Hydrology" Volumes 1 and 2, University of Science and Technology Publications

Mahdavi Mohammad (2001), "General Hydrology" Ayeh Publications, Tehran

How to evaluate a student during the course:

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

(Type of exams in terms of how to design a question - loading - time of exams and assignments should be mentioned)

Method	Score	Date	Time
	1	During semester	Scheduled training hours

End of term exam			
Solve class problems	2		
Active presence and participation in class discussions	17		
Total	20		

Student assignments during the course:

The student is obliged to be present in the classroom with the preparation of the contents of the previous session and to pay attention to the concepts mentioned in the classroom and to take notes from the contents and to participate in solving the problems and exercises raised.

Teaching methods and teaching aids used

The teaching method in this course will be in the form of a short conference, group discussion, problem solving, questions and answers using PowerPoint software as well as the use of other educational media according to the needs and scientific visits to water and sewage facilities.

Lesson rules and expectations from students

- 1- Attending the class on time and based on the set time
- 2- Observance of education and disciplinary regulations
- 3- Studying the contents of the previous session and preparing to attend the class
- 4- Presenting a brief work report with emphasis on weaknesses and upgrading facilities in scientific visits
- 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 for presenting the curriculum for operation and maintenance of water and sewage facilities in the first semester of the 2020-2021 academic year

Session	Specific Objectives (Outline)	Specific behavioral goals	Lecturer	Necessary preparation of students before the start of the class
1	Introduction and history of hydrology	The student should be able to explain the definition of hydrology and its history.	Dr. Mirzaei	
2	Water balance and radiation	The student should be able to describe the water balance and radiation and related topics.		Review the contents of the previous session, pay attention to the concepts and take notes and participate in

				solving problems
3	Meteorological parameters (temperature)	The student should be able to describe meteorological parameters (temperature) and related issues.		
4	Meteorological parameters (air pressure, wind)	The student should be able to describe meteorological parameters (air pressure, wind) and related issues		
5	Basin and its geographical characteristics	The student should be able to describe the catchment and its geographical features		
6	Watershed and its hydrological characteristics (precipitation, precipitation types, precipitation measurements)	The student should be able to describe the catchment and its hydrological characteristics (precipitation, precipitation types, precipitation measurements).		
7	Watershed and its hydrological characteristics (precipitation characteristics, frequency intensity curves)	The student should be able to describe the catchment and its hydrological characteristics (precipitation characteristics, frequency intensity curves).		
8	Evaporation and transpiration	The student should be able to explain evapotranspiration and related issues.		
9	Water penetration into the soil	The student should be able to explain the infiltration of water into the soil and related issues		
10	Hydrometry	The student should be able to explain hydrometry and related topics.		
11	Flood estimation	The student should be able to explain the discussion of flood estimation and related issues.		
12	Hydrograph and its analysis	The student should be able to describe the hydrograph and its analysis.		
13	Unit hydrograph and its analysis	The student should be able to describe the unit hydrograph and its analysis.		
14	Groundwater	The student should be able to describe the hydrology of groundwater.		
15	Statistics and Probability in Hydrology	The student should be able to explain the application of statistics and probabilities in hydrology.		
16	Sediment discussion	The student should be able to explain the sediment discussion and related issues.		
17	End of semester exam			