**AMBO UNIVERSITY WOLISO CAMPUS**

**School of Technology and Informatics**

**Department Of Civil Engineering**

**Course Name: Water supply and urban drainage (Ceng 3171)**

#### **Summer** credit hr: **3** ETCTS 5

**Pre-requisite:** Engineering hydrology

**Enrollment:** Weekend **class year** III and semester II **Instructors name: Ararsa G. Email: gadafaaroo25@gmail.com**

**Phone No: +125-919793641**

**Course Objectives**

* To familiarize the students with the design of water supply systems, demand projection, design of storm water drainage, and identification of water supply sources.
* Able the students how to identify the sources of potable water, how to design pipes and pipe networks and how to develop wells.

**CHAPTER ONE**

**1.0 DEMAND FOR WATER**

* 1. 1.1. Variation and Factors Affecting demand
  2. 1.2. Quantity of Water for Domestic and Industrial Uses
  3. 1.3 Fire Demand

**CHAPTER TWO**

1. **METHODS OF FORECASTING POPULATION**

**CHAPTER THREE**

1. **SOURCES OF WATER**
   1. Types
   2. Source Selection Criteria

**CHAPTER FOUR**

1. **COLLECTION AND DISTRIBUTION OF WATER**
   1. 4.1 Intakes

4.2 Methods of Distribution

* 1. 4.3 Service Reservoirs
  2. 4.4 Pipes Used in Water Distribution Systems
     1. 4.5 Pipe Materials
     2. 4.6 Determination of Pipe Sizes
     3. 4.7 Energy Losses in Pipes
     4. 4.8 Pipe Appurtenances
  3. 4.9 Pipes System

4.10 Methods of Laying Distribution Pipes

**CHAPTER FIVE**

1. **INTRODUCTION TO WATER TREATMENT**
   1. Preliminary Treatment methods
   2. Coagulation-Sedimentation
   3. Filtration
   4. Disinfection
   5. Miscellaneous Methods of Water Treatment

**CHAPTER SIX**

1. **0 PHYSICAL, CHEMICAL AND BIOLOGICAL ANALYSIS OF WATER**

**CHAPTER SEVEN**

1. **0 WATER, SANITATION AND HEALTH RELATIONSHIP**

**CHAPTER EIGHT**

1. **0 INTRODUCTION TO WATER CARRIAGE SANITATION SYSTEMS**
   1. 8.1 Septic Tanks
   2. 8.2 Sewerage Systems

**CHAPTER NINE**

1. **0 INTRODUCTION TO NON-WATER CARRIAGE SANITATION SYSTEMS**
   1. 9.2 Solid Waste Management
   2. **Reference**
2. Water Supply and Sanitation. Steel & Terence
3. Environmental Engineering. Peavy, Rowe & Techobanoglous
4. Water & Waste Water Engineering.Vol1&2, Fair, Geyer & Okun
5. Water, Waste & Health in Hot Climates. Feacham, Mc Garry & Mara
6. Environmental Health Engineering in the Tropics.Caircross & Feacham
7. Small Community Water Supplies. Hofkes.

**N.B:- the assignment will be submitted after a material on lined two week after.**

**For more information contact me by email.**