

Ambo University Woliso Campus
School of technology and informatics

Department of CoTM

Sewage disposal & treatment

Program	BSc. in CoTM
Course title	Sewage disposal & treatment
Course code	Heng3141
Credit hour	3
ECTS credits	4
Class Year	III
Semester	II
Pre request	HEng3132 (Water supply and Treatment)
Instructor	Nigusie K.
<i>Course objective and competency expected to be gained</i>	
<ul style="list-style-type: none"> ➤ To learn how to do a preliminary design of the most widely used wastewater treatment unit operations and how to organize these in to a functioning treatment system, having studied about the quantity, quality and the materials used. 	
<i>Course content</i>	
Chapter 1 :-Introduction to sewage or wastewater 1.1 General 1.2 Waste water collection & transportation system Chapter 2:-Estimating sewage water quantity 2.1 General 2.2 Types of Sewage 2.3 Quantity of sewage 2.4 Variation of Sewage 2.5 Storm Water or Surface Runoff 2.6 Infiltration / Inflow 2.7 Population forecasting 2.8 Waste water characterization Chapter 3:-Hydraulic design of sewers 3.1 Introduction 3.2 Design Period for different components of sewerage system 3.3 Hydraulic Formulas for determining Flow Velocities in Sewers	3.4 Hydraulic characteristics of circular sewer 3.5 Sewer appurtenance 3.6 Sewer Material Chapter 4:-Sewage pumping or lifting 4.1 Necessity of pumping Sewage 4.2 Pumping Stations 4.3 Types of pumps Chapter 5:- Introduction to the methods of wastewater treatment 5.1 Introduction 5.2 Wastewater Treatment Standards 5.3 General classification of wastewater treatment methods <ul style="list-style-type: none"> ➤ Preliminary Treatment ➤ Primary, 2ry, Tertiary Treatment 5.4 Septic Tanks design 5.5 Sewage effluent disposal Chapter 6:-sludge treatment Chapter 7:-Onsite waste water technologies
Mode of assessment	60% continues assessment and 40% final exam
Attendance requirement	90% minimum class attendance
Reference	-Birdie G. S and Birdie J.S, Water Supply and Sanitary Engineering, Dhanpat Rai and Sons (1998), New Delhi -Duggal K.N., Elements of Environmental Engineering, S. Chand and Co. Ltd. (2000), -Fair, Geyer & Okun, Water and Waste water Engineering, John Wiley & sons, Inc. (1966)