Course Type	Course Code	Name of Course	L	T	P	Credit
DC	ESC 251	Water Pollution	0	0	2	2

Course Objective

- Impart the practical knowledge about water quality parameters.
- Impart the knowledge to understand the degree of treatment based on water quality parameters.

Learning Outcomes

Upon successful completion of this course, students will:

- Plan and conduct an experiment for physico-chemical properties of water
- Understanding the role of water quality parameters for water suplly and treatment.

Unit No.	Topics to be Covered	Practical Hours	Learning Outcome
1	Calibration and determination of pH meter, TDS and conductivity of a given water sample.	2	Understanding the operation and calibration of most common equipments in field of water quality measurement
2	Determination of different component of NOM by TOC analyzer and spectrophotometer	2	To understand the role of NOM during water treatment
3	Determination of acidity of given water sample.	2	Understanding the role of acidity and alkalinity in drinking water quality and its role during water treatment.
4	Determination of alkalinity of given water sample		Understanding the role of acidity and alkalinity in drinking water quality and its role during water treatment
5	Determination of hardness of given water sample.	2	Understanding the measurement of different component of hardness and its role in water quality management.
6	Determination of nitrate of given water sample.	2	Understanding the measurement of nitrate and its role in water quality management.
7	Determination of sulphate of given water sample.	2	Understanding the measurement of sulphate and its role in water quality management.
8	Determination of chloride of given water sample.	2	Understanding the measurement of chloride and its role in water quality management.
9	Determination of chlorine demand, residual chlorine and breakpoint.	2	Understanding the disinfection requirement for drinking water
10	Calibration and standardization of Nephelometer and Determination of optimum coagulant dose using jar test and turbidity meter	2	Understanding the removal mechanisim of colloidal particles from water source.
11	Determination of optimum lime soda dose for hardness removal	2	Understanding the lime and soda chemistry for hardness removal.
12	Determination of sodium and potassium by flame photometer	2	Understanding the determination of selected ions by flame photometer