# CE 506: Water Quality Analysis Lab (0-0-6: 3)

**Course Objective:** To give a hand on experience of the analysis of water to add knowledge to the theoretical subjects. Students will study water quality and the effect of common pollutants while practicing their critical-thinking skills in an inquiry-based experiment.

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Suggested list of Experiments:

1) To find the turbidity and colour of a given sample of water.
2) To determine the pH value of a given sample of water.
3) To determine the conductivity of a given sample of water.
4) To find out total dissolved solid, settle able solids and suspended solids of the given sample.
5) To determine the carbonate, bicarbonate, and hydroxide alkalinity of a sample.
6) To estimate the hardness of the given sample of water by standard EDTA method.
7) To determine Flouride of the given sample.
8) To find the quantity of dissolved oxygen (DO) present in the given sample.
9) To determine biochemical oxygen demand (BOD) exerted by the given waste water sample.
10) To determine Chemical oxygen demand (COD) exerted by the given waste water sample.
11) To determine MPN of coliforms of the given sample.

**References**


1. Peavy H. S., Rowe D. R. and. Tchobanoglous, G., "*Environmental Engineering",* McGraw-Hill
2. McGhee T. J., "*Water Supply and Sewerage",* McGraw-Hill
3. Davis M. L and Cornwell D. A., "*Introduction to Environmental Engineering",* McGraw-Hill
4. Metcalf & Eddy (Revised by G. Tchobanoglous, F. L. Burton and H. D. Stensel), "*Wastewater Engineering-Treatment and Reuse",* Tata McGraw Hill.
5. Sawyer, C.N. and McCarty, P. L., "*Chemistry for Environmental Engineers",* McGraw-Hill.
6. Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WPCF, Washington, D.C.
7. Manual for Sewer and Sewerage, Central Public Health & Environmental Engineering Organization, Ministry of Housing and Urban Development, Govt. of India
8. Manual for water supply and treatment, Central Public Health & Environmental Engineering Organization, Ministry of Housing and Urban Development, Govt. of India


**Expected outcome:** Students will gain knowledge and shall be able to do the actual testing in the field and become aware of the pollutants deteriorating water quality.

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