

CHEM 3880 Quality Testing Laboratory

Course Description:

This is a practical course in analytical chemistry which covers various chemical tests performed in the accredited laboratories of the society. Quality assurance of the chemical test is illustrated through experiments and it includes the use of certified reference material, calibration of equipment and the use of spiked sample during measurements. Students are required to prepare for the experiments by understanding and analyzing the goals of the experiment. They also need to search for knowledge and information from diverse channels such as assigned textbooks, literature, and internet resources available to them.

Co-requisite:

CHEM3420

List of Experiments (for reference only):

1. Calibration of Equipment: Part (I): Electronic Balance and Oven
2. Calibration of Equipment: Part (II): Volumetric Flask and Micropipette
3. Performance Checking of Instrument: ICP-OES
4. Performance Checking of Instrument: GC-MS
5. Performance Characteristics of Analytical Method: Precision, Linearity, Limit of Detection and Recovery
6. Determination of Heavy Metals in Toy: Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES)
7. Preparation of Formaldehyde Dinitrophenylhydrazone for the Determination of Formaldehyde in Air
8. Write a Standard Operating Procedure (SOP) for the Determination of Chemical Oxygen Demand in Wastewater