



Lead City University, Ibadan
Faculty of Sciences
Department of Biochemistry

COURSE PARTICULARS

Course Title: Experimental Chemistry I

Course Code: CHM 118

No. of Units: 1

Status: compulsory

LECTURER DETAILS

Name: Mr. John-Dewole O.O.
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Area of Specialization: Environmental Chemical Analysis

Name: Mrs. Oni O.S.
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COURSE DESCRIPTION

Experimental Chemistry I is designed to expose the 100level students to safety laboratory practices and standard methods of scientific measurements in the chemistry laboratory. This is to ensure that the students would be able develop good practical knowledge in correlation to the theoretical studies in the class room. The students would further develop skills to prepare simple reagents with desired concentrations. However, the scope is limited to the inorganic quantitative and qualitative measurements; subsequent practical courses are meant to take care of the rest.

COURSE OBJECTIVE

At the end of the course, the students are expected to be able to:

Identify at least 10 laboratory safety practices

Standardize H_2SO_4 solutions

Standardize NaOH

Determine the purity of Iron fillings

ASSESMENT

Class Attendance	5marks
Test(s) and Assignments	25marks
Final Examination	70marks

LECTURE PLAN

Week	Topic
1	Safety Precautions in the Laboratory.
2	Standardization H_2SO_4 using 0.1M NaOH.
3	Standardization of a given solution of NaOH using Potassium Hydrogen Phthalate (KHP).
4	Determination of concentrations of sodium hydroxide and sodium carbonate separately in a mixture of both.
5	Determination of the number of molecules of water of crystallization in a crystalline compound; e.g. $\text{Na}_2\text{S}_2\text{O}_3 \cdot x\text{H}_2\text{O}$
6	Determination of the Percentage Composition of Calcium in a given Calcium salt by Gravimetric Method.
7	Determination of the Purity of Iron Filling.
8	Determination of Percentage Composition of Sodium in a given lead-sodium alloy by Acid-Base titrations.
9	Determination of the concentration of a given permanganate solution by Oxidation-Reduction Technique.
10	Determination of the Percentage Purity of Ferrous sulphate crystals
11	Determination of Percentage composition of Ammonia in an Ammonium salt e.g. NH_4Cl
12	Determination of the Concentrations of sodium hydroxide and sodium carbonate in a mixture of both.
13	Determination of the equivalent weight of oxalic acid crystals as a reducing agent.
14	Determination of Molarity of Potassium permanganate
15	Examinations

READING LIST

1. Oladipe O (1989): A'Level Practical Chemistry Course, 2nd Edition. Onibonoje Press-Publishers. Ibadan Nigeria.
2. Odiaka T.I. (2008): Practical Inorganic Chemistry, 1st Edition. University of Ibadan Printing Press.