COLLEGE OF BASIC AND APPLIED SCIENCES
DEPARTMENT OF CHEMICAL SCIENCES (INDUSTRIAL CHEMISTRY OPTION)
CHM 412 (NON-AQUEOUS SOLVENTS AND METAL CARBONYLS)

2units(R)
2017/2018 session/first semester
COURSE LECTURER: OGBEBOR, CLARA

PREREQUISITE:

INTRODUCTION:

The study of non-Aqueous Solvents and Metal Carbonyls enables the students to understand the various properties, chemical changes and solute-solvent interaction as well as the characteristics of a solvent.

OBJECTIVES:

It is expected that the students should understand the followings at the end of the course:

- ✓ Classification and general characteristics of solvent
- ✓ Solute- solvent interaction
- ✓ Acid- base theory and auto ionization of solvent
- ✓ Leveling and differentiating effect of solvent
- ✓ Protic and aprotic solvents with examples

COURSE CONTENT:

Classification and general characteristics of solvents: temperature range over which the solvent is liquid, dielectric constant, donor and acceptor, auto-dissociation/self-ionization. Solute-solvent interaction and acid-base theory/auto ionization of solvents. Leveling and differentiating effects of solvents. Treatments of some protic and aprotic solvents: liquid ammonia, dinitrogen (IV) oxide and sulphur (IV) oxide as non-aqueous solvents.

WEEK	TOPIC
1	Classification and general characteristics of solvents
2	Temperature range over which the solvent is
3	Liquid, dielectric constant, donor and acceptor
4	Solute-solvent interaction and acid-base theory/auto ionization of solvents
5	Acid-base theory/auto ionization of solvents
6	Leveling and differentiating effects of solvents.
7	Treatments of some protic and aprotic solvents
8	Test
9	Treatments liquid dinitrogen (IV) oxide
10	Treatments liquid sulphur (IV) oxide
11	Liquid ammonia as non-aqueous solvents
12	Revision

COURSE TEXTBOOK AND REFERNCE MATERIALS
Note: Reference materials are all available at the central library

COURSE ASSESSMENTS:
Attendance: 5%
Class work: 5%
Mid semester test: 10%
Assignment: 10%
Examination: 70%
Note: All assignments will be given at the end of each topic.

Office Location: Room 2, physics laboratory: College of Basic and Applied Sciences

Lecture Room: Chemistry Laboratory1: College of Basic and Applied Sciences

Lecture Hours: 2hrs

Office Hours: 1-3pm, Monday to Thursday