TRINITY UNIVERSITY
Building on the Rock

COURSE COMPACT

Faculty: Faculty of Sciences
Department: Chemical Sciences
Programme:
Course Code: CHM 121
Course Title: **General Chemistry II**
Units: 3
Course Lecturer: **Mr Njoku, Saint Isaac**
Semester/Session: Second
Session: 2018/2019
Location:

A. Brief Overview of Course

Historical survey of the development and importance of Organic Chemistry; Fullerenes as fourth allotrope of carbon, uses as nanotubules, nanostructures, nanochemistry. Electronic theory in organic chemistry. Isolation and purification of organic compounds. Determination of structures of organic compounds including qualitative and quantitative analysis in organic chemistry. Nomenclature and functional group classes of organic compounds. Introductory reaction mechanism and kinetics. Stereochemistry. The chemistry of alkanes, alkenes, alkynes, alcohols, ethers, amines, alkyl halides, nitriles, aldehydes, ketones, carboxylic acids and derivatives. The Chemistry of selected metals and non-metals. Comparative chemistry of group IA, IIA and IVA elements. Introduction to transition metal chemistry. .

B. Course Objectives/Goals

At the end of this course, students are expected to:

- Have a good understanding of the development and importance of Organic Chemistry.
- Understand the term Nano chemistry and its application in day to day life.
- Be able to determine the structures of organic compounds including qualitative and quantitative analysis in organic chemistry.

- Completely understand The chemistry of alkanes, alkenes, alkynes, alcohols, ethers, amines, alkyl halides, nitriles, aldehydes, ketones, carboxylic acids and derivatives vis-à-vis there laboratory preparations , properties,and reactivities
- Have a complete understanding of the periodicity of group IA, IIA and IVA elements and transition metals.

C. Methods of Lecture Delivery/Teaching Aids

- Lecture Delivery Methods
  - Interactive classroom session
  - Individual assignments
  - Lecture notes
- Teaching Aids
  - Multimedia projection

D. Course Outlines

- Modules & Details of Topics

Week 1: Historical survey of the development and importance of Organic Chemistry.

Week 2: Fullerenes as fourth allotrope of carbon, uses as nanotubules, nanostructures, nanochemistry.

Weeks 3: Electronic theory in organic chemistry. Isolation and purification of organic compounds.

Continuous Assessment One (CA1)

Week 4: Determination of structures of organic compounds including qualitative and quantitative analysis in organic chemistry.

Week 5 & 6: . Nomenclature and functional group classes of organic compounds. Introductory reaction mechanism and kinetics. Stereochemistry.

Weeks 7, 8 & 9: The chemistry of alkanes, alkenes, alkynes, alcohols, ethers, amines, alkyl halides, nitriles, aldehydes, ketones, carboxylic acids and derivatives.

- Mid-Semester Test

Week 10 : The Chemistry of selected metals and non-metals. Comparative chemistry of group IA, IIA and IVA elements.

- Continuous Assessment Two (CA2)

Week 11: Introduction to transition metal chemistry.

Week 12: Revision

- Continuous Assessment
    - Class test/Assignments 20% Marks
    - Mid Semester test 10% Marks

- Examination 70% Marks

TOTAL 100%

E. Ground Rules & Regulations

- 75% attendance is required to sit for the examination.
- Assignments must be submitted as at when due.
- Contributions to group discussion and class work are noted.

F. Topics of Term Papers/Assignment/Student Activities

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G. Ground Rules & Regulations

- 75% attendance is required to seat for the examination.
- Assignments must be submitted as at when due.
- Contributions to group discussion and class work are noted.

H. Recommended Reading/Texts

a. Basic Organic Chemistry by O.B. Familoni, B.I. Alo and Ositogun

b. Concise Inorganic Chemistry (1996). By Lee, J. D.