

# *University College of the Cayman Islands*

## **BACHELORS DEGREE SYLLABUS**

**COURSE NAME: ORGANIC CHEM I1/Lab COURSE #: CHE 212**

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### **COURSE DESCRIPTION**

This is an advanced course in the structure and reactivity of functional groups including aromatic compounds, carbonyl compounds, carbohydrates, organ metallic compounds, carboxylic acids and their derivatives, amines and amino acids.

**Credits: 4**

**Prerequisite: CHE 211**

### ***COURSE OBJECTIVES***

Upon successful completion of this course, students will be able to:

- Employ the IUPAC nomenclature system to name organic compounds.
- Draw structures from systematic names.
- Predict the products of reactions of compounds containing functional groups discussed in the textbook and the class.
- Write detailed mechanisms of selected reactions.
- Interpret infrared, ultraviolet, mass, and nuclear magnetic resonance spectra in order to solve structure determination problems.
- Employ knowledge of functional group reactions to design rational syntheses of selected compounds.
- Employ appropriate and safe laboratory techniques to perform experiments, collaborating with partners.
- Interpret the results of spectroscopic and chromatographic instruments to analyze reactions and products.
- Employ laboratory skills and content knowledge to determine the identity of unknown compounds.
- Report the results of the laboratory experiments in a laboratory notebook, performing quantitative calculations, and interpreting the results.

## ***OUTLINE OF COURSE CONTENT***

1. Conjugated Systems, Orbital Symmetry, & UV Spectroscopy
2. Structure and Reactions of Aromatic Compounds
3. Ketones and Aldehydes
4. Amines
5. Carboxylic Acids and their Derivatives
6. Additions & Condensations of Enols & Enolates
7. Carbohydrates & Nucleic Acids
8. Amino Acids, Peptides, & Proteins
9. Introduction to Biochemistry

## **TEXTBOOK:**

## **ORGANIC CHEMISTRY**

AUTHOR: FRANCIS CAREY

PUBLISHER: Mc Graw Hill (fourth edition) 2000

## ASSESSMENT

Laboratory/Assignments	40%
Mid-Term Test	20%
Final Examination	<u>40%</u>
Total	100%