Introduction to Organic and Biochemistry

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| **C-ID Number** | CHEM 102 |
| **Discipline** | Chemistry |
| **Date Approved** | August 07, 2013 |

## General Course Description

This course is a survey of organic and biochemistry for nursing majors and other allied health fields. Topics include general organic chemistry and biological chemistry as they apply to living systems. The laboratory component will support the course topics including both qualitative and quantitative experiments, and analysis of data.

## Minimum Units

4 (1 unit of lab)

## Any rationale or comments

## Advisories/Recommendations

## Course Content

Hydrocarbons
Alcohols, ethers and thiols
Aldehydes and ketones
Carboxylic acids
Amines
Esters and amides
Carbohydrates
Proteins
Lipids
Nucleic acids
Metabolism

## Laboratory Activities

Hands-on laboratory activities, such as separation techniques, characterization of organic molecules, and reactions of organic compounds, will support the range of topics covered in lecture. It is expected that this will be explicitly covered in the course outline of record.

## Course Objectives

At the conclusion of this course, the student should be able to:

Draw and name structures containing common mono-functional organic molecules and differentiate functional groups when they appear in an organic structure, relate the physical and chemical properties of compounds containing these groups with the structure of each functional classification;
Distinguish roles of four major classes of bio-molecules in living cells,
Compare and contrast the processes of DNA replication and transcription, RNA translation, and common types of mutations; and
Demonstrate knowledge of major biochemical components in metabolism.

## Prerequisites

Introduction to Chemistry (C-ID CHEM 101)

## Corequisites

None

## Methods of Evaluation

Examinations Homework Lab work Portfolios Projects Written papers and/or reports Quizzes

## Sample Textbooks

Timberlake, Introduction to General, Organic and Biological Chemistry
Janice Smith, General, Organic, and Biological Chemistry
Timberlake, Lab Manual for General, Organic, and Biological Chemistry

## Notes