

## Master Syllabus

### CHE 2121 - Organic Chemistry II

**Division:** Science, Mathematics and Engineering

**Department:** Chemistry

**Credit Hour Total:** 5.0

**Lecture Hrs:** 4.0 **Lab Hrs:** 3.0

**Prerequisite(s):** CHE 2111

**Date Revised:** December 2014

---

#### Course Description:

The study of aldehydes, ketones, carboxylic acids, derivatives of carboxylic acids, enolates, carbanions, amines, polycyclic and heterocyclic aromatic compounds, pericyclic reactions, polymers, composite materials and biochemistry. Four classroom, three lab hours per week.

#### General Education Outcomes:

- Critical Thinking/Problem Solving Competency

#### Course Outcomes:

##### Polycyclic and heterocyclic aromatic compounds

Demonstrate an understanding of the nomenclature and reactions of polycyclic and heterocyclic aromatic compounds.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Carbohydrates and Lipids

Demonstrate an understanding of the structures, functions and nomenclature of carbohydrates and lipids.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Polymers

Demonstrate an understanding of basic polymer chemistry.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Carbonyl Compounds

Demonstrate an understanding of the structure, nomenclature and reactions of aldehydes, ketones, and carboxylic acids.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Amines, Amino Acids and Proteins

Demonstrate an understanding of the structure, function, reactivity and nomenclature of amines, amino acids and proteins.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Enolates and Carbanions

Demonstrate an understanding of Enolates and Carbanions and how they function as the building blocks of organic synthesis.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

##### Pericyclic Reactions

Demonstrate an understanding of pericyclic reactions.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% of exam questions answered correctly

#### Outline:

Aldehydes and Ketones  
Carboxylic Acids  
Derivatives of Carboxylic Acids  
Enolates and Carbanions: Building Blocks for Organic Synthesis  
Polycyclic and Heterocyclic Aromatic Compounds  
Pericyclic Reactions  
Carbohydrates  
Amino Acids and Proteins  
Lipids and Related Natural Products  
Special Topic - Polymers  
Amines