

CHEM 437 Syllabus

Course Code	Course Name	Credits	Prerequisite(S)	Classification
CHEM 437	Chemistry of Natural Products	2	CHEM 333	Elective Course

Course Description This course introduce student to classification of chemistry of natural products; terpenoids, steroids, alkaloids, fatty acids, and amino acids for how to extract, identify, elucidate structure and biogenesis.

Class Scheduling Classes are held 1 time/week for 50 minutes. Labs are held 1 time/week for 150 minutes.

Textbook Natural Products: The Secondary Metabolites, James R Hanson, Editor: E W Abel. Royal Society of Chemistry, 2003.
Natural Products Chemistry: Sources, Separations and Structures, George Nicola and Raymond Cooper, 2014

Course Coordinator Dr. Nahed Bawakid

Relationship to SOs	1	2	3	4	5	6
	X	X				X

CLOs By the end of this course student will be able to:

CLO1. Define the chemistry of natural products (SO1)

CLO2. Identify each class in secondary metabolites (SO1)

CLO3. Apply the chemical methods to determine the structure of some isolated of natural products (SO2)

CLO4. Illustrate the biosynthetic pathways of secondary metabolites (SO2)

CLO5. Perform experiment and handle chemicals, glassware and instruments (SO2)

CLO6. Search of recent papers in the field of Natural Products Chemistry (SO6)

Contents

List of Topics	No. of Weeks
Introduction	1
Terpenoids	3
Steroids	3
Shikimates	2
Alkaloids	2
Oral presentation	2
Revision, Oral presentation, and Quizzes.	2
Total	15
Laboratory Section: Chromatography, Distillation, Isolation of D-Limonene from orange peel, Isolation of Piperine from Black Pepper, Isolation of Caffeine from Tea, Isolation of Eugenol from Cloves, Isolation of Cholesterol from Egg Yolk, measuring ¹ HNMR for isolated compounds, Measuring the IR, UV for isolated compounds.	13