

Summary Information

Module Code	7128PHASCI
Formal Module Title	Natural Products Chemistry
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	23
Practical	9
Workshop	8

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	This module aims to cover the phytochemical and medicinal chemistry (synthesis) aspects of natural products. The theoretical Lectures will offer an overview of the major: (1) Biosynthesis pathways (Shikimate, Mevalonic and amino acid) of natural products (alkaloids, phenolics, terpenes, glycosides and essential oils); (2) Fundamentals of organic synthesis; (3) Use of online tools to explore the physicochemical characteristics of phytochemicals.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate a thorough knowledge of the biosynthesis, structure and physico-chemical properties of natural products.
MLO2	2	Demonstrate a thorough knowledge and practical understanding of how to apply organic chemistry to the semi/synthesis of natural products as well as selected online tools to support organic synthesis design.
MLO3	3	Locate, critically evaluate, critically assess and make appropriate use of information from scientific literature and relevant electronic resources on phytochemistry and organic synthesis of natural products.
MLO4	4	Demonstrate the necessary skills to plan, perform, report and interpret the results of laboratory experiments and analyses on the chemistry of natural products.

Module Content

Outline Syllabus	1. Plant Metabolism and Enzymes 2. Shikimate Pathway 3. Amino acid Pathways 4. Mevalonic acid Pathway 5. Essential oils 6. Glycosides 7. Historical aspects of Natural Products Chemistry 8. Fundamentals of organic synthesis 9. Online tools and Databases for the study of natural products
Module Overview	
Additional Information	This module will require previous undergraduate and/or postgraduate knowledge in organic chemistry.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Exam	60	2	MLO1, MLO2
Report	Report	40	0	MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Jose Prieto Garcia	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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