

Approaches to Natural Products Discovery

Module Information

2022.01, Approved

Summary Information

Module Code	7127PHASCI
Formal Module Title	Approaches to Natural Products Discovery
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	18
Practical	12
Workshop	10

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	This module aims to cover the R&D aspects of natural products 'from field to bedside'. The learning activities will: (1) Integrate and apply the analytical and phytochemical knowledge acquired in modules 7224PHASCI and 7128PHASCI modules to natural products/drug discovery;(2) Provide the candidates with further knowledge in preparative chromatography and other isolation methods; (3) Integrate and apply the chemical knowledge acquired in module 7124PHASCI and 7128PHASCI towards mastery in synthetic and semisynthetic methods applied to natural products; (4) Provide the candidates with advanced knowledge on strategies to discover new natural products with therapeutic and functional uses.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Independently acquire advanced chemical knowledge and apply specialised methods necessary for the bioprospection, field extraction, and industrial purification of natural products.
MLO2	2	Independently acquire, critically evaluate and apply advanced synthetic knowledge to modify the physicochemical properties of natural products.
MLO3	3	Demonstrate the necessary skills to plan, perform, report and interpret the results of laboratory experiments, and case studies on the bioprospection, field extraction, chemical modification and industrial purification of natural products

Module Content

Outline Syllabus	Isolation methods (Preparative Chromatography)Bioguided Isolation MethodsChemical Libraries-High Throughput ScreeningGreen ChemistryMicroorganisms and semisynthesisAcademic vs. industrial approachesEndophytic fungi
Module Overview	This module covers the systematic approach in drug discovery from natural sources, from the rain forest to the deep oceans and how we sustainably scale up their obtention in full adherence to the biodiversity conventions.
Additional Information	This module takes the very same name of the programme because it integrates all the previous content of the course into a linear and coherent narrative.

Assessments

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

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Fyaz Ismail	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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