

Liverpool John Moores University

Title: NATURAL PRODUCTS
Status: Definitive
Code: **7005PHASCI** (120449)
Version Start Date: 01-08-2014

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

Team	Leader
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Academic Level: FHEQ7 **Credit Value:** 30.00 **Total Delivered Hours:** 52.00
Total Learning Hours: 300 **Private Study:** 248

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	19.000
Practical	12.000
Workshop	18.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Lab Rpt	lab report	40.0	
Exam	Exam	exam	60.0	3.00

Aims

To understand various aspects of chromatographic, spectroscopic and assay techniques and approaches pertinent to natural products drug discovery, and the

Learning Outcomes

After completing the module the student should be able to:

- 1 Demonstrate expertise in the understanding of chromatographic, spectroscopic and assay techniques and approaches pertinent to natural product drug discovery and the chemistry of natural products.
- 2 Apply chromatographic, spectroscopic and assay techniques to purify natural products and to assess their bioactivity
- 3 Interpret complex spectroscopic data to elucidate structures of natural compounds

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Lab report	2
Examination	1 3

Outline Syllabus

Traditional medicine systems

Strategies, approaches and processes in natural products drug discovery

Various sources of natural products

Secondary and primary metabolites

Major chemical classes of natural products

Biosynthesis of selected bioactive natural products

Extraction, isolation and identification of natural products

Assessment of bioactivity for drug discovery

Properties of natural products

Learning Activities

Lectures to introduce each topic within the module

Practical sessions to give students first-hand experience of relevant techniques

Workshops to support analysis of spectroscopic data to elucidate structure of various classes of natural products

References

Course Material	Book
Author	Sarker SD and Nahar L
Publishing Year	2012
Title	Natural Products Isolation
Subtitle	

Edition	3rd
Publisher	, Humana Press/Springer Verlag Press
ISBN	978-1-617-79

Course Material	Book
Author	Sarker SD and Nahar L
Publishing Year	2007
Title	Chemistry for Pharmacy Students: General, Organic and Natural Product Chemistry
Subtitle	
Edition	1st
Publisher	John Wiley & Sons
ISBN	978-0-470-01780-7

Course Material	Book
Author	T. Claridge
Publishing Year	2005
Title	High-Resolution NMR Techniques in Organic Chemistry (Tetrahedron Organic Chemistry)
Subtitle	
Edition	1st
Publisher	Pergamon
ISBN	008-0-427-987

Course Material	Book
Author	Joseph B. Lambert, Scott Gronert, Herbert F. Shurvell, David Lightner, Robert Graham Cooks
Publishing Year	2010
Title	Organic Structural Spectroscopy
Subtitle	
Edition	2nd
Publisher	Prentice Hall
ISBN	978-0321592569

Notes

Practical sessions will involve application of various aspects of chromatographic, spectroscopic and assay techniques pertinent to natural products drug discovery Exam (three hours) will assess students' understanding of the various concepts through data interpretation and problem solving questions