Liverpool John Moores University

Title:	ANALYSIS, STRUCTURE AND FUNCTION IN ORGANIC MOLECULES
Status:	Definitive
Code:	**7002PHASCI** (120446)
Version Start Date:	01-08-2015
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
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Academic Level:	FHEQ7	**Credit Value:**	20.00	**Total Delivered Hours:**	43.00
Total Learning Hours:	200	**Private Study:**	157		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	21.000
Practical	15.000
Workshop	5.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Practice	Lab	Students will analyse a drug(s) and be assessed on the quality of the results	40.0	
Exam	Exam	Exam	60.0	2.00

Aims

To understand the application of analytical chemistry to pharmaceutical materials,

and the effect of functional group chemistry on both the structure and consequent properties of relevant molecules.

Learning Outcomes

After completing the module the student should be able to:

1	Demonstrate expertise in applying specialised analytical techniques to determine the structure and purity of active pharmaceutical ingredients.
2	Display mastery of function/property prediction relevant to pharmaceutical molecules from structural information.

Learning Outcomes of Assessments

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

Practical Skills	1
Exam	2

Outline Syllabus

Advanced analytical chemistry
Quality control
Functional groups / reactivity / metabolism
Polarity and ionisation
Hydrophilicity / lipophilicity
Purification methods
Molecular shape / bioisosterism
Interactions with metal ions and proteins
Biopharmaceutical molecules
Basic QSAR

Learning Activities

Lectures introducing each topic within the module.
Practical sessions giving students hands-on experience of relevant analytical techniques.
Workshops to support both the analysis of data generated during practical sessions and problem-solving skills relevant to molecular structure and function.

Notes

Practical sessions will involve analysis of various APIs to enable assay capability and structure elucidation skills. Terminal lab to assess practical skills.
Exam will assess students understanding of structure-activity/structure-function of

API-relevant molecules