

Liverpool John Moores University

Title: ANALYSIS, STRUCTURE AND FUNCTION OF THERAPEUTIC AGENTS
Status: Definitive
Code: **7102PHASCI** (123664)
Version Start Date: 01-08-2021

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

Team	Leader
Simon-Dieter Brandt	Y
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Academic Level: FHEQ7 **Credit Value:** 20 **Total Delivered Hours:** 43
Total Learning Hours: 200 **Private Study:** 157

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	16
Practical	15
Workshop	10

Grading Basis: 50 %

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	
Exam	Exam	Exam	60	2

Aims

To provide students with knowledge and skills to apply analytical chemistry to the

characterisation of pharmaceutical materials, and to predict the effect of functional group chemistry on the structure and 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 identity and purity of active pharmaceutical molecules.
- 2 Display mastery in predicting the property and the behaviour of active 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 substance identification skills. Laboratory sessions will enable to reinforce practical skills.

Exam will assess students understanding of structure-activity/structure-function of

API-relevant molecules