Liverpool John Moores University

Title:	ADVANCED PHARMACEUTICAL ANALYSIS
Status:	Definitive
Code:	**6002PHASCI** (122603)
Version Start Date:	01-08-2019
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
Alistair Fielding	Y
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Academic Level:	FHEQ6	**Credit Value:**	20	**Total Delivered Hours:**	62
Total Learning Hours:	200	**Private Study:**	138		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	30
Practical	16
Workshop	14

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Report	Practical report	40	
Exam	Exam	Exam	60	2

Aims

To develop knowledge and practical experience of advanced techniques available for the analysis of pharmaceutical products.

Learning Outcomes

After completing the module the student should be able to:

1 Discuss the principles and practice of a range of advanced analytical techniques typical of those used in the pharmaceutical industry
2 Propose and justify a suitable programme of testing for pharmaceuticals
3 Critically evaluate the quality of analytical data and determine whether an analytical method is fit for purpose
4 Demonstrate the ability to perform analyses of pharmaceuticals and report the data

Learning Outcomes of Assessments

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

Practical Report	1	3	4
Exam	1	2	3

Outline Syllabus

Procedures for quality control with regard to current pharmaceutical regulations. Method validation, analytical validation criteria and monitoring of data quality and processes. Issues of sample preparation of different sample types.
Application of mass spectrometry to the analysis of pharmaceutical compounds. The theory and operation of mass spectrometers will be discussed including the use of coupled techniques. This will build upon the chromatography material from previous levels.
Analysis of metals in pharmaceuticals with reference to current pharmaceutical industry regulations. The module will cover the theory and application of atomic spectroscopy and mass spectrometry methods including coupled methods.
The testing of biologicals relevant to pharmaceuticals, including vaccines, therapeutic immunoglobulins and monoclonal antibodies using ELISA and radio-immunoassay techniques.

Learning Activities

Lectures covering each topic within the module
Practical sessions giving students first-hand experience of relevant analytical techniques
Workshops to support data interpretation and lecture material

Notes

The module is designed to provide students with the concepts and practical experience necessary to pursue a career in an analytical role in the pharmaceutical industry, and to be aware of the limitations of analytical techniques upon which they may rely for information. Study includes in-depth treatment of selected current

analytical techniques, developing many of the subjects and concepts introduced at Level 5.
Lectures supported by practicals and workshops.