

Liverpool John Moores University

Title: FORENSIC SCIENCE RESEARCH METHODS 2
Status: Definitive
Code: **5101FSBMOL** (122130)
Version Start Date: 01-08-2021

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

Team	Leader
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Academic Level: FHEQ5 **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	29
Practical	9
Tutorial	5
Workshop	17

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	ASS1	Critical Analysis of a Paper	50	2
Presentation	ASS2	Group Poster	50	

Aims

The aims of this module are to provide forensic science students with tutorial and PDP support, theoretical knowledge and practical experience of some key laboratory techniques and prepare students for their Biomolecular Science Project at level 6 by the study and practice of essential research skills.

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply quality assurance and quality control concepts to forensic science casework.
- 2 Analyse and present scientific data using a number of common approaches.
- 3 Evaluate the importance of experimental design and apply these concepts in a research setting.

Learning Outcomes of Assessments

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

Critical Analysis of a Paper	1	
Group Poster	2	3

Outline Syllabus

The following topics will be covered:

- *Quality control, quality control and the role of the forensic science regulator in encouraging standards in forensic science.*
- *Impartiality in the criminal justice system and the need for ethics and morals.*
- *Approaches to experimental design.*
- *Forensic assay development and characterisation.*
- *Validation, method validation and measurement uncertainty.*
- *Forensic methods including evidence item examination, DNA Extraction, PCR, presumptive body fluid tests.*
- *Health and Safety and risk assessment in respect to research projects and forensic casework.*
- *Project management skills.*
- *Hypothesis testing and forming.*
- *Data analysis techniques including statistical interpretation and presentation of data.*
- *Common approaches to present data.*

Learning Activities

Learning will take place through a variety of classroom and laboratory based activities and independent study. Some activities will involve working alone and others in a small team. Lectures, tutorials, and workshops will provide information

and practice on a range of skills appropriate to a research scientist. Students will undertake a number of laboratory based practicals to explore links between theory and practice.

Notes

This module provides tutorial and PDP support to level 5 students. In addition to this students will gain theoretical knowledge and practical experience of a number of analytical techniques, be able to interpret and analyse data including the use of key statistical tests, improve their writing skills and reflective practice, develop research skills that will be helpful for their level 6 research project.