

Summary Information

Module Code	7104FSBMOL
Formal Module Title	Bioanalytical Techniques
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	8
Practical	21
Seminar	2
Workshop	6

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To provide students with an understanding of advanced molecular techniques relevant to forensic science including DNA and RNA based techniques. To enable students to understand and perform appropriate interpretation methods To develop critical awareness of the limitations of these techniques and their use in the criminal justice system.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Perform relevant advanced techniques and critically analyse and interpret the results
MLO2	2	Critically evaluate current research and the application of relevant techniques with regard to the criminal justice system
MLO3	3	Demonstrate a comprehensive understanding of the subject

Module Content

Outline Syllabus	Advanced DNA techniques are provided which include:1) The design, development and validation of STR multiplex kits.2) The extraction of DNA using validated kits and methodology.3) The quantification of DNA using validated kits and analysis software.4) The analysis of STR data using validated kits and software.5) The analysis of DNA sequence data for human identification.6) Lectures in human DNA analysis. Advanced RNA techniques are provided which include:1) Lectures in the use of RNA markers for body fluid identification.2) Methods of preserving samples for RNA analysis.3) RNA extraction and quantification.4) Analysis of RNA markers for body fluid identification.
Module Overview	This module examines state-of-the-art biomolecular techniques, including DNA and protein analysis. Commonly used techniques in the forensic field will be critically analysed and performed along with emerging techniques which can form the basis of the dissertation or further postgraduate study.
Additional Information	This module looks at advanced level bioanalytical techniques relevant to forensic science including recent and new technologies. These are analysed and discussed with reference to the requirements of the criminal justice system.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Journal style report	50	0	MLO1, MLO2
Centralised Exam	Examination	50	3	MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings

Nicholas Dawnay	Yes	N/A
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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