

Trace Evidence Analysis

Module Information

2022.01, Approved

Summary Information

Module Code	7101FSBMOL
Formal Module Title	Trace Evidence Analysis
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	11
Practical	26
Tutorial	2
Workshop	4

Module Offering(s)

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

Aims and Outcomes

Aims	Trace Evidence such as diatoms and pollen play a pivotal role in criminal investigations. It is essential for forensic scientists to be able to identify, differentiate and analyse different types of trace evidence as well as to be able to interpret the results of their analysis. Analysis of the majority of trace evidence begins with advanced microscopic methods and in some cases can end with chemical composition determination. The aims of this module are to provide students with the theoretical knowledge and practical experience required by a forensic scientist to identify and examine trace evidence. In addition to, the ability to discuss, appraise and assess the results obtained.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Identify and differentiate between different types of trace evidence and to be able to interpret the results of their analysis
MLO2	2	Develop detailed knowledge of a range of advanced techniques used in the analysis of trace evidence.
MLO3	3	Undertake a critical appraisal of the pivotal role and limitations played by trace evidence analysis using a case study

Module Content

Outline Syllabus	The module will provide information about a variety of different pieces of trace evidence, with an emphasis on biological trace evidence, for example diatoms and pollen. As the majority of trace evidence in forensic science is analysed by microscopic techniques, the students will gain both theoretical knowledge and practical experience of a range of advanced microscopic techniques such as SEM and confocal. Workshops and practicals will provide the students with experience to undertake a mini-project. Where evidence from a scenario will be provided and the students will use the practical experience gained to undertake analysis of these pieces of evidence. A report will be written to allow the results to be disseminated. The students will also choose a case study to research, undertake a critical analysis of the use of trace evidence in that case and disseminate the results as a poster.
Module Overview	This module teaches you to identify, differentiate and analyse different types of trace evidence using advanced techniques. Microscopy, including SEM (EDX) and atomic force, form the basis of the practical analysis performed, along with other techniques.
Additional Information	This module allows students to gain theoretical knowledge and practical experience of advanced techniques used to analyse trace evidence.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Report	Mini Project Report	50	0	MLO1, MLO2
Presentation	Case Study Presentation	50	0	MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Amanda Boddis	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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