Fire Investigation

Module Information

2022.01, Approved

Summary Information

Module Code	7102FSBMOL
Formal Module Title	Fire Investigation
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	18
Practical	18
Workshop	4

Module Offering(s)

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

Aims and Outcomes

Aims	Understand fundamental scientific principles of fire science, fire dynamics and material science and demonstrate their application to fire investigation.Critical consideration of all potential ignition sourcesInterpretation of the physical evidence remaining after a fire and determination of the origin and cause of a fire - interpretation of smoke/ fire damage patterns. Current best practice for Fire Scene Examination and documentation.Evidence identification and correct methods for preservation, collection and packaging.Laboratory analysis and interpretation of case samples.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Analyse and investigate scientific theories of fire science and fire dynamics.
MLO2	2	Develop critical and analytical skills involving the principles, practices and techniques of fire investigation.
MLO3	3	Critically evaluate the appropriate techniques to conduct laboratory examinations on case samples.

Module Content

Outline Syllabus	-Chemical structure and bonding, physical and chemical properties/principles.-Thermodynamics and Fire dynamics, including heat flux, release and transfer-Principles of combustion, types and transitions between them-Stages of a fire-Material science and fire loading (Geometry of fuel and compartment)-Surface spread of flame, ventilation and smoke plumes (including design and construction)-Scene contamination and preservation (Cordons, scene log, PPE, scene safety)-Best practice investigation methodologies including case studies.-Determination of origin and cause of fire and potential ignition sources (including interpretation of smoke and fire damage patterns);-Documentation of the scene tape notes, photography, video etc.-Laboratory analysis of samples-Other forensic evidence.
Module Overview	You will gain specialist knowledge of fire and explosive analysis both at the crime scene and in terms of analytical techniques.
Additional Information	Module covers fundamental scientific principles of fire science, fire dynamics and material science and demonstrate their application to fire investigation.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Exam	40	1	MLO1, MLO2, MLO3
Portfolio	Portfolio	60	0	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Andrew Evans	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings