

Module Title Fire, Explosions And Firearms	Reference AS3065 SCQF Level SCQF 9 SCQF Points 15 ECTS Points 7.5 Created June 2002 Approved June 2002 Amended May 2011 Version No. 3
Keywords Fire Investigation, Explosions, Firearms, Ballistics, Firearm Discharge Residues.	

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

Analytical Science I (AS2040) or equivalent.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide the concepts, principles and practice underlying the forensic investigation of fires, explosions and firearms.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

Mode of Delivery

Basic knowledge will be imparted through lectures, tutorials and practical workshops. Students will be expected to contribute through the retrieval and study of case studies. It is proposed to include lectures from forensic practitioners and fire experts.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2
Component 2	3

Component 1 is a closed book examination.

Component 2 is an Expert Witness Report and oral

- 1.Explain the concepts and principles underlying the forensic investigation of explosions, firearms and suspected arson.
- 2.Discuss the application and practice of analytical techniques applied to the investigation of explosions, firearms and fires.
- 3.Discuss critically and report on aspects of QA and cross contamination with regard to interpretation of evidence.

Indicative Module Content

Fire investigation:

thermodynamics and principles of combustion, propagation, types of fires, electricity and electrical fires, location of seat of fire, laboratory examination of debris. Explosives and explosions: types and chemistry of explosives, initiation and detonation.

Investigation and analysis. Safety and disposal.

Firearms: mechanisms and design aspects, introduction to ballistics, scene of shooting incident, firearm discharge residues, forensic laboratory examination, proof marks.

Evidence: collection, avoidance of contamination, storage, assessment of significance.

presentation.

Indicative Bibliography

- 1.STAUFFER, E. et al. *Fire Debris Analysis*. Current Edition. Elsevier.
- 2.BEVERIDGE, A., ed., *Forensic Investigation of Explosions*. Current Edition. Taylor and Francis.
- 3.WARLOW, T.A. *Firearms, the Law and Forensic Ballistics*. Current Edition. Taylor and Francis.
- 4.DeHAAN, J.D. *Kirk's Fire Investigation*. Current Edition. Pearson/Prentice Hall.
- 5.NIC DAEID, N. *Fire Investigation*. Current Edition. CRC Press
- 6.HAAG, M.G. *Shooting Incident Reconstruction*. Current Edition. Amsterdam, Academic Press (Elsevier). E-edition available at RGU Library.

Indicative Student Workload

Contact Hours

Full Time

Lectures	27
Practical	6
Tutorials/Seminars	6
Visiting Speakers	3

Directed Study

Directed Study	33
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Private Study

Private Study	75
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