Module Specification

Scientific Investigation of Crime

Version: 2023-24, v4.0, 31 May 2023

Contents

Part 1: Information

Module title: Scientific Investigation of Crime

Module code: USSJRV-30-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Delivery locations: Not in use for Modules

Field: Applied Sciences

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module aims to introduce forensic science students to crime scene investigation and the recovery, examination and analysis of a range of common forensic evidence in the laboratory.

Outline syllabus: The syllabus includes:

Introduction of Locard's principle and history of Forensic Science.
Types of evidence and evidential value.
Volume crime and serious crime scene processing.
Crime scene documentation including photography and sketching.
Packaging and preservation of evidence.
Marks and impressions, including fingerprinting.
The nature of forensic evidence, sampling issues and analytical approaches.
Location and recovery of biological material for laboratory testing.
Components of biological fluids including the biochemistry of presumptive testing.
Bloodstain pattern analysis.
The persistence of DNA, either as stain or in terms of body, tissue.
Introduction to the processes involved in DNA analysis and the NDNAD.
Light and comparison microscopy as employed in examination of items and evidence.
Document examination using physical and chemical techniques including Electrostatic Detection Apparatus and the Video Spectral Comparator.
Presumptive and screening tests for chemicals including immunoassays and thin layer chromatography.
The chemical processes involved in fires and explosions, specific issues concerned with these potential crime scenes and the chemical analysis of evidence.
Forensic examination and laboratory documentation of examination of materials; including issues of transfer, persistence and significance of findings.

Part 3: Teaching and learning methods

Teaching and learning methods: This module is delivered through a mixture of interactive lectures, laboratory practical classes and simulated crime scene investigation activities.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Recognise and describe the various types of physical evidence, and understand their potential importance in a forensic investigation of both volume and serious crime, including the personnel involved in each.

MO2 Examine and document simple crime scenes using industry standard documentation.

MO3 Select and apply appropriate techniques for the recovery and preservation of evidence and the maintenance of the chain of custody in both the crime scene and the laboratory.

MO4 Follow standard procedures and methods in the laboratory and contemporaneously document laboratory examinations.

MO5 Understand the relevance of biological and chemical principles to forensic investigations and the techniques used in the laboratory examination of this evidence.

MO6 Communicate scientific material clearly to peers.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ussjrv-30-1.html

Part 4: Assessment

Assessment strategy: Assessment task A

Work Item A1: Crime Scene Investigation

Students undertake the investigation of a simulated volume crime in small groups. Students document the scene using industry standard documentation and

photographs and submit an individual Streamlined Forensic Report (MG22d) summarising the results of the investigation.

This assessment has been selected to introduce students to the principles of crime scene investigation and the associated documentation and to partially address the Chartered Society of Forensic Sciences Crime Scene Investigation component standard.

Students are supported in this assessment by the lecture and practical series and also by a formative crime scene investigation opportunity, for which feedback is received.

Work Item A2: Presentation
Students work in pairs to present to peers for 10 minutes on a forensic topic of their choosing. This presentation is partially peer assessed with peer assessment judgements being moderated by academic staff. Variations to presentation format (e.g. audience; lone presentation) are acceptable in the case of agreed reasonable adjustments.

The assessment has been selected to scaffold to level 5 viva assessments in USSKAU-30-2 Forensic Analysis. Students are supported in this assessment by taught sessions on presenting to peer audiences and peer assessment.

Assessment task B: Portfolio
Assessment task B is a portfolio of six twenty minute MCQ tests, released throughout the year and three case study based laboratory examination records, completed in the laboratory.

The MCQ tests have been selected to ensure retained knowledge of the taught content of the module. Assessment of laboratory examination records scaffolds to modules at level 2 and 3 where these documents must be completed. Contemporaneous laboratory record keeping underpins the Chartered Society of Forensic Sciences accreditation of these programmes.

Students receive formative feedback on two earlier laboratory examination records and to practice timed Blackboard tests. MCQ are generated from a question bank, students have 24 hours to complete the 20 minute MCQ (students with reasonable needs adjustments for extra time receive this added to the 20 minutes). Any students who notify of accessibility issues during their assessment receive a re-start.

Assessment components:

Portfolio (First Sit)
Description: MCQ tests and Laboratory Examination Records
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO3, MO4, MO5

Presentation (First Sit)
Description: Oral presentation (10 minutes)
Weighting: 30 %
Final assessment: No
Group work: Yes
Learning outcomes tested: MO6

Practical Skills Assessment (First Sit)
Description: Crime Scene Investigation
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)
Description: MCQ Tests and Laboratory Examination Record based on an online practical class.
Weighting: 30 %
Final assessment: No

Group work: No
Learning outcomes tested: MO3, MO4, MO5

Presentation (Resit)
Description: Oral Presentation (10 minutes)
Weighting: 30 %
Final assessment: No
Group work: No
Learning outcomes tested: MO6

Practical Skills Assessment (Resit)
Description: Crime Scene Investigation
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Forensic Science [Frenchay] BSc (Hons) 2023-24

Forensic Science [Frenchay] MSci 2023-24

Forensic Science {Foundation} [Frenchay] BSc (Hons) 2022-23

Forensic Science {Foundation} [Frenchay] MSci 2022-23