Module Specification

Forensic Analysis and Toxicology

Version: 2025-26, v4.0, Approved

Contents

Part 1: Information

Module title: Forensic Analysis and Toxicology

Module code: USSJUR-30-3

Level: Level 6

For implementation from: 2025-26

UWE credit rating: 30

ECTS credit rating: 15

College: College of Health, Science & Society

School: CHSS School of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Instrumental Analytical Science 2025-26

Excluded combinations: Forensic Biology and Genetics 2025-26

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module provides in-depth knowledge and practical experience of analytical chemistry and forensic toxicology, aligned to professional practice.

Pre-requisite: Students must have passed USSKB9-15-2 Instrumental Analytical Science before starting this module.

Features: Not applicable

Educational aims: This module aims to provide students with the knowledge and practical skills needed to embark on a career in forensic analysis, analytical chemistry or forensic toxicology.

Outline syllabus: The indicative syllabus of this module is as follows:

You will be taught the theory and practical forensic applications of a broad range of advanced chromatographic and spectroscopic techniques for the analysis of forensic evidence such as pharmaceutical and illicit drugs, accelerants, alcohols and explosives.
The interpretation of the results of these techniques in the context of forensic toxicology is then explored in more depth. You will be taught about the specific interpretative challenges associated with casework e.g. post-mortem toxicology, doping in sport, driving under the influence and work place and family drug testing.

Adherence to professional practice standards is embedded throughout.

Part 3: Teaching and learning methods

Teaching and learning methods: The module is delivered through a mixture of interactive lectures and practical classes supported by workshops.

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

MO1 Evidence advanced practical skills in the preparation and laboratory analysis of samples relevant to analytical chemistry and forensic toxicology.

MO2 Qualitatively and quantitatively analyse data produced by industry standard analytical instrumentation and interpret complex data cognisant of forensic context and professional practice requirements.

MO3 Critically evaluate fundamental technical principles with respect to method development strategies including instrument selection and parameter variation.

MO4 Communicate results of toxicological analyses to a lay audience using industry standard documentation.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

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/ussjur-30-3.html

Part 4: Assessment

Assessment strategy: Assessment 1: Professional practice report (1500 words). Students will produce a written report based upon the preparation and laboratory analysis of calibration standards and an unknown sample.
Students will be assessed on the quality of their practical work, data analysis and their technical understanding of the instrumentation used.
This assessment has been selected to develop key skills that would underpin a career in the analytical sciences.
Students will be supported to succeed in this assessment through coursework support sessions. The assessment scaffolds from laboratory reports and technical viva voce assessments in modules at level 5 (Instrumental Analytical Science and Forensic Analysis respectively).

Assessment 2: Case study (2000 words).
Students will follow a standard operating procedure to undertake the preparation and analysis of a given post-mortem sample (simulated). The resulting data will be quantitatively analysed and interpreted to provide a suitable post-mortem conclusion, which will be presented as a MG11 Witness Statement to be submitted alongside the data analysis.
This assessment scaffolds from assessment 1 with more complex data analysis, interpretation and presentation. The MG11 Witness Statement also requires students to develop skills in communication of complex scientific principles to a lay

audience, which is a key transferable skill.
Students will also receive assessment support and data analysis and interpretation workshops.

Assessment tasks:

Professional Practice Report (First Sit)
Description: Professional Practice Report (1500 words)
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Case Study (First Sit)
Description: Case Study (2000 words)
Weighting: 60 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO4

Professional Practice Report (Resit)
Description: Professional Practice Report (1500 words)
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Case Study (Resit)
Description: Case Study (2000 words)
Weighting: 60 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2, MO4

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} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2021-22

Forensic Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2021-22

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

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

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

Forensic Science [Frenchay] MSci 2022-23