Module Specification

Forensic Biology and Genetics

Version: 2025-26, v4.0, Approved

Contents

Part 1: Information

Module title: Forensic Biology and Genetics

Module code: USSJUP-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: Genetics 2025-26, Molecular Genetics 2025-26

Excluded combinations: None

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 forensic biology and genetics, aligned to professional practice.

Pre-requisites: Students must have passed USSKFQ-15-2 Genetics 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 biology, molecular biology or forensic genetics.

Outline syllabus: Current techniques used in forensic biology and the use of DNA in forensic science. Topics will include the use of Y chromosome, mitochondrial DNA and the interpretation of partial and mixed profiles.

Statistical analysis of datasets often encountered by forensic scientists e.g. using population genetics in the interpretation of DNA profiles.

The theory and practice of forensic detection of body fluids.

Part 3: Teaching and learning methods

Teaching and learning methods: The content of the module is delivered through a mixture of interactive lectures and practical classes. Laboratory practical classes are focused on the development of the skills required in professional practice, which are then applied to forensic casework.

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

MO1 Critically discuss current approaches to and practice in, forensic biology and forensic genetic profiling.

MO2 Demonstrate laboratory skills in the identification of body fluids and carry out DNA analysis, including the interpretation of different types of mixed DNA profiles encountered in forensic genetics.

MO3 Apply statistical analysis to datasets often encountered by forensic biologists.

MO4 Present complex analyses and their interpretation in a manner understandable to a lay audience.

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/ussjup-30-3.html

Part 4: Assessment

Assessment strategy: Assessment 1: In class test (20 minutes):
A viva voce based on interpretation of DNA profiles.
Students will be questioned to establish their depth of understanding on the techniques they have employed to interpret and statistically analyse forensic evidential DNA profiles. Understanding of forensic evidential value will also be explored. This is an appropriate assessment for the learning outcome related to the communication of the results of DNA analysis as professional forensic scientists are required to communicate these results to a lay jury in court.
The viva voce assessment in USSKAU-30-2 Forensic Analysis acts as a scaffolding assessment to this one and this assessment supports the mock court assessment in USSJKW-30-3 Crime Scene to Court.

Assessment 2: Portfolio:
A case file portfolio consisting of laboratory examination records; a Senior Investigating Officer update sheet and the statistical evaluation of DNA evidence.

Students work on casework connected to a simulated forensic case involving biological evidence and produce contemporaneous laboratory records on their casework, in keeping with professional practice in forensic science. The laboratory examination record is a detailed documentation of all laboratory work and includes anti-contamination procedures, a search and recovery, examination and analysis. Students are supported to succeed in this assessment through informal formative feedback on laboratory examination records provided throughout the laboratory

classes and have formative opportunities to undertake statistical evaluation of DNA evidence and complete Senior Investigating Officer updates in taught sessions.

Assessment tasks:

In-class test (First Sit)
Description: Viva voce examination (20 minutes)
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO4

Portfolio (First Sit)
Description: Case file portfolio
Weighting: 60 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO2, MO3, MO4

In-class test (Resit)
Description: Viva voce examination (20 minutes)
Weighting: 40 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO4

Portfolio (Resit)
Description: Case file portfolio
Weighting: 60 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO2, MO3, 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