MODULE SPECIFICATION

Part 1: Information			
Module Title	Forensic Biology and Genetics		
Module Code	USSJUP-30-3	Level	Level 6
For implementation from	2020-21		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	Molecular Genetics 2020-21		
Excluded Combinations	Advanced Analytical Science 2020-21, Forensic Analysis and Toxicology 2020-21		
Co- requisites	Genomic Technologies 2020-21		
Module Entry requirements	None		

Part 2: Description

Overview: Pre-requisites: students must have passed USSKB7-15-2 Molecular Genetics. Co-requisites: students must have passed USSKBF-30-3 Genomic Technologies.

Features: Excluded Combinations: USSKBQ-30-3 Advanced Analytical Science; USSJUR30-3 Forensic Analysis and Toxicology.

Educational Aims: See learning outcomes.

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 and use of RNA for their determination.

The theory and practice of advanced microscopic techniques, including polarising and confocal, for the examination of hairs, fibres and textiles.

Generic Graduate Skills:-

Practiced:
Emotional Intelligence
Globally Engaged

Evidenced:
Communication
Professionalism
Critical Thinking
Digital Fluency
Innovative and Enterprising
Forward Looking

Teaching and Learning Methods: The content of the module is delivered through a mixture of lectures, tutorials and practical classes .

Part 3: Assessment

The problem-solving approach in tutorial and laboratory classes enables students to reflect on and refine their knowledge, understanding and skills throughout the module. Informal formative feedback is given throughout these learning situations, enabling students to evidence their achievements in the summative assessments.

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 submit their casework portfolio of laboratory examination records for component B.

The controlled component consists of a Viva Voce and an unseen online exam.

The viva voce based on interpretation of DNA profiles. Students will be assessed by two members of staff and questioned to establish their depth of understanding on the techniques they have employed in their data analysis carried out in semester 1. 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 summative assessment will be an online exam taken over a 24 hour period. This assessment will provide students with an opportunity to demonstrate the extent to which they have met theoretical aspects of the learning outcomes for the module.

All work is assessed in line with the Faculty of Health and Applied Sciences Generic Assessment Criteria for level 3.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Examination (Online) - Component A	✓	40 %	Online examination (24 hours)
Portfolio - Component B		50 %	Laboratory Examination Records- including critical evaluation
Examination - Component A		10 %	Viva voce examination (15 minutes)

Resit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	40 %	Online examination (24 hours)
Examination - Component A		10 %	Viva voce examination (15 minutes)
Portfolio - Component B		50 %	Laboratory Examination Records- including critical evaluation

Part 4: Teaching and Learning Methods

Learning Outcomes

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

Module Learning Outcomes	Reference
Critically discuss current approaches to and practice in, forensic biology and forensic genetic profiling	MO1
Carry out DNA analysis and interpret different types of DNA profile that can be encountered in forensic genetics	MO2
Apply statistical analysis to datasets often encountered by forensic scientists	MO3
Assess analytical methods currently employed in forensic biology and DNA profiling	MO4
Demonstrate an advanced knowledge of a range of microscopes and microscopy techniques used in forensic biology	MO5
Present complex analyses and their interpretation in a manner understandable to a lay audience	MO6

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	234
Total Independent Study Hours:	234
Scheduled Learning and Teaching Hours:	
Face-to-face learning	66
Total Scheduled Learning and Teaching Hours:	66
Hours to be allocated	300
Allocated Hours	300

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/ussjup-30-3.html

Part 5: Contributes Towards
This module contributes towards the following programmes of study: Forensic Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19 Forensic Science [Sep][FT][Frenchay][4yrs] MSci 2018-19