



### MODULE SPECIFICATION

Part 1: Information			
Module Title	Forensic Biology and Genetics		
Module Code	USSJUP-30-3	Level	3
For implementation from	September 2019		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Health and Applied Sciences	Field	Applied Sciences
Department	Applied Sciences		
Contributes towards	MSci Forensic Science MSci Forensic Science (with Foundation Year) BSc Forensic Science BSc Forensic Science (with Foundation Year)		
Module type:	Standard		
Pre-requisites	USSKB7-15-2 Molecular Genetics		
Excluded Combinations	USSKBQ-30-3 Advanced Analytical Science; USSJUR30-3 Forensic Analysis and Toxicology		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description	
<p>The content of the module is delivered through a mixture of lectures, tutorials and practical classes and includes:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Statistical analysis of datasets often encountered by forensic scientists e.g. using population genetics in the interpretation of DNA profiles.</li> <li>• The theory and practice of forensic detection of body fluids and use of RNA for their determination.</li> <li>• The theory and practice of advanced microscopic techniques, including polarising and confocal, for the examination of hairs, fibres and textiles.</li> </ul>	

Generic Graduate Skill	Specific strand (eg presentation) - Optional	Introduced	Practiced	Evidenced
1. Communication		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Professionalism		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Critical Thinking		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Digital Fluency		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Innovative and Enterprising		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Forward Looking		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Emotional Intelligence		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Globally Engaged		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Part 3: Assessment: Strategy and Details

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 written 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 exam will be 2 hours duration. 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.

Identify final timetabled piece of assessment (component and element)

**A2**

**% weighting between components A and B** (Standard modules only)

**A:**

**50%**

**B:**

**50%**

#### First Sit

**Component A** (controlled conditions)  
**Description of each element**

**Element weighting**  
(as % of component)

1. Viva voce examination – 15 minutes, in-class

20%

2. Unseen written exam (2 hours)

80%

**Component B**  
**Description of each element**

**Element weighting**  
(as % of component)

1. Laboratory Examination Records- including critical evaluation

100%

**Resit (further attendance at taught classes is not required)**

<b>Component A (controlled conditions)</b>		<b>Element weighting (as % of component)</b>																									
<b>Description of each element</b>																											
1. Viva voce examination – 15 minutes, in-class		20%																									
2. Unseen written exam (2 hours) 100%		80%																									
<b>Component B</b>		<b>Element weighting (as % of component)</b>																									
<b>Description of each element</b>																											
1. Laboratory Examination Records- including critical evaluation		100%																									
<b>Part 4: Learning Outcomes &amp; KIS Data</b>																											
<b>Learning Outcomes</b>	On successful completion of this module students will be able to: <ul style="list-style-type: none"> <li>critically discuss current approaches to and practice in, forensic biology and forensic genetic profiling (A2)</li> <li>carry out DNA analysis and interpret different types of DNA profile that can be encountered in forensic genetics (B);</li> <li>apply statistical analysis to datasets often encountered by forensic scientists (A2 and B)</li> <li>assess analytical methods currently employed in forensic biology and DNA profiling (B);</li> <li>demonstrate an advanced knowledge of a range of microscopes and microscopy techniques used in forensic biology (A1 and B).</li> <li>Present complex analyses and their interpretation in a manner understandable to a lay audience. (A1).</li> </ul>																										
<b>Key Information Sets Information (KIS)</b>	<table border="1"> <thead> <tr> <th colspan="5"><b>Key Information Set - Module data</b></th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </thead> <tbody> <tr> <td colspan="4"><i>Number of credits for this module</i></td> <td style="border: 2px solid black;">30</td> </tr> <tr> <th>Hours to be allocated</th> <th>Scheduled learning and teaching study hours</th> <th>Independent study hours</th> <th>Placement study hours</th> <th>Allocated Hours</th> </tr> <tr> <td>300</td> <td>72</td> <td>228</td> <td>0</td> <td>300</td> </tr> </tbody> </table>		<b>Key Information Set - Module data</b>										<i>Number of credits for this module</i>				30	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	300	72	228	0	300
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<b>Contact Hours</b>	<p>The table below indicates as a percentage the total assessment of the module which constitutes a;</p> <p><b>Written Exam:</b> Unseen or open book written exam  <b>Coursework:</b> Written assignment or essay, report, dissertation, portfolio, project or in class test  <b>Practical Exam:</b> Oral Assessment and/or presentation, practical skills assessment, practical exam (i.e. an exam determining mastery of a technique)</p>																										

Total Assessment	Total assessment of the module:			
	Written exam assessment percentage			40%
	Practical exam assessment			10%
	Coursework assessment percentage			50%
				100%
Reading List	<a href="#">Forensic Biology and Genetics Reading List</a>			

**FOR OFFICE USE ONLY**

First CAP Approval Date	2 Feb 2016			
Revision ASQC Approval Date <i>Update this row each time a change goes to CAP</i>	29/05/2019	Version	2	<a href="#">RIA 12907</a>