






ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data					
Module Title	Forensic Biology and Genetics				
Module Code	USSJUP-30-3	Level	3	Version	1
Owning Faculty	Health & Applied Sciences	Field	Forensic, Analytical and Chemical Sciences.		
Department	Biological, Biomedical and Analytical Sciences				
Contributes towards	BSc Forensic Science; BSc Forensic Science (with Foundation Year); MSci Forensic Science; MSci Forensic Science (with Foundation Year)				
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard
Pre-requisites	USSKB7-15-2 Molecular Genetics		Co- requisites	USSKBF-30-3 Genomic Technologies	
Excluded Combinations	USSKBQ-30-3 Advanced Analytical Science; USSJUR-30-3 Forensic Analysis and Toxicology		Module Entry requirements	None	
Valid From	September 2016		Valid to	September 2022	

CAP Approval Date	2 Feb 2016
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ol style="list-style-type: none"> critically discuss current approaches to and practice in, forensic biology and forensic genetic profiling (Component A; Component B Element 2) carry out DNA analysis and interpret different types of DNA profile that can be encountered in forensic genetics (Component B Element 1); apply statistical analysis to datasets often encountered by forensic scientists (Component A; Component B Element 1) assess analytical methods currently employed in forensic biology and DNA profiling (Component B Element 2); demonstrate an advanced knowledge of a range of microscopes and microscopy techniques used in forensic biology (Component A; Component B Element 2) critically assess, present and discuss primary reference source material. (Component B, Element 2).
Syllabus Outline	<p>In this module students will study 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 will also be covered e.g. using population genetics in the interpretation of DNA profiles. Students will learn about the forensic detection of body fluids and use of RNA for their determination. Students will also study and have practical experience of advanced microscopic techniques, including polarising and confocal, for the examination of hairs, fibres and textiles.</p>

Contact Hours	<p>The contact hours (72) are distributed as follows:</p> <p>52 hours interactive lectures 12 hours practical classes 8 hours tutorial classes</p>																														
Teaching and Learning Methods	<p>The theoretical material will be primarily delivered as lectures, extended and supported by practical activities and directed reading and tasks. The practical work will include simulation of real world forensic casework and the evaluation and interpretation of analytical results. Tutorials and learning support will be offered at key times. Online learning and assessment materials will support the module.</p> <p>Scheduled learning includes lectures, tutorials and laboratory practical classes.</p> <p>Independent learning includes hours engaged with essential reading, assignment preparation and completion, etc. These sessions constitute an average time per level as indicated in the table below.</p>																														
Key Information Sets Information	<p>Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are</p> <table border="1" data-bbox="488 875 1390 1267"> <tr> <td colspan="4">Number of credits for this module</td> <td>30</td> <td></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> <td></td> </tr> <tr> <td>300</td> <td>72</td> <td>228</td> <td>0</td> <td>300</td> <td></td> </tr> </table> <p>The table below indicates as a percentage the total assessment of the module which constitutes a -</p> <p>Written Exam: Unseen written exam, Coursework: Practical Portfolio and written assignment.</p> <table border="1" data-bbox="596 1487 1286 1715"> <tr> <td colspan="2">Total assessment of the module:</td> <td></td> </tr> <tr> <td>Written exam assessment percentage</td> <td></td> <td>50%</td> </tr> <tr> <td>Coursework assessment percentage</td> <td></td> <td>50%</td> </tr> <tr> <td></td> <td></td> <td>100%</td> </tr> </table>	Number of credits for this module				30		Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours		300	72	228	0	300		Total assessment of the module:			Written exam assessment percentage		50%	Coursework assessment percentage		50%			100%
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Reading Strategy	<p>All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.</p>																														

	<p>Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given or sold a print study pack or be referred to texts that are available electronically, etc. This guidance will be available either in the module handbook, via the module information on Blackboard or through any other vehicle deemed appropriate by the module/programme leaders. If further reading is expected, this will be indicated clearly. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases.</p>
Indicative Reading List	<p><i>The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms.</i></p> <p>Indicative Reading List:</p> <p>Most recent editions of:</p> <p>*Butler, J.M. <i>Fundamentals of Forensic DNA typing</i>. Burlington, MA: Elsevier Academic Press.</p> <p>Goodwin, W., Linacre, A. & Hadi, S. <i>An Introduction to Forensic Genetics</i>. Hoboken, NJ: John Wiley & Sons.</p> <p>Jackson, A.R.W. & Jackson, J.M. <i>Forensic Science</i>. Harlow: Prentice Hall.</p> <p>Rapley, R. & Whitehouse, D. <i>Molecular Forensics</i>. Hoboken, NJ: John Wiley & Sons.</p> <p>Roberts, P. & Willmore, C. <i>The role of Forensic Science Evidence in Criminal Proceedings</i>. London: HMSO .</p> <p>Robertson, B. & Vignaux, G. A. <i>Interpreting Evidence - Evaluating Forensic Science in the Courtroom</i>. Hoboken, NJ: John Wiley & Sons.</p> <p>Wheeler, B.P. & Wilson, L.J. <i>Practical Forensic Microscopy</i>. Hoboken, NJ: John Wiley & Sons.</p> <p>* Recommended text</p> <p>And appropriate journals including:</p> <p>Journals of Forensic Sciences Forensic Science International Science and Justice</p>

Part 3: Assessment	
Assessment Strategy	<p>The assessment strategy has been designed to support and enhance the development of both subject-based and employability skills, whilst ensuring that the modules learning outcomes are attained, as described below.</p> <p>The controlled component is a written exam. The exams will be 3 hours duration which is consistent with the Department's assessment strategy for Level 3 modules. 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. Students will be provided with formative feed-forward for their exam from a revision and exam preparation session and through the extensive support materials supplied through Blackboard.</p> <p>The coursework comprises two elements: The first is a practical portfolio which is based on the laboratory practical series. This portfolio requires the</p>

	<p>detailed recording of data followed by analysis, interpretation and discussion of these data. The recording and analysis of laboratory data is a vital skill for forensic science students; consequently this assessment can be described as an assessment to enhance employability and learning.</p> <p>The second element is a written assignment, provides the opportunity for the student to complete an in-depth analysis of one aspect of forensic biology or genetics. This will include a thorough discussion of current research and an evaluation of current professional practise.</p> <p>All work is assessed in line with the Department's Generic Assessment Criteria and conforms to university policies for the setting, collection, marking and return of student work. Assessments are described in the module handbook that is supplied at the start of module.</p> <p>Formative feedback is available to students throughout the module through group discussions, practical classes and in lectures and tutorials.</p>
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Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	A:	B:
	50%	50%
First Sit		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Written Exam (3 hours)	100%	
Component B Description of each element	Element weighting (as % of component)	
1. Practical Portfolio	30%	
2. Written Assignment	70%	

Resit (further attendance at taught classes is not required)		
Component A (controlled conditions) Description of each element	Element weighting (as % of component)	
1. Written exam (3 hours)	100%	
Component B Description of each element	Element weighting (as % of component)	
1. Written Assignment	100%	
If a student is permitted an EXCEPTIONAL RETAKE of the module the assessment will be that indicated by the Module Description at the time that retake commences.		