



CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Guidance is given in the template below in red. Please write the specification for your module over the guidance notes.

| Part 1: Basic Data | | | | | |
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| Module Title | Research Methods and Practical Skills | | | | |
| Module Code | USSKM3-30-M | Level | M | Version | 2 |
| Owning Faculty | Health and Applied Sciences | Field | Forensic Science | | |
| Contributes towards | MSc Forensic Science | | | | |
| UWE Credit Rating | 30 | ECTS Credit Rating | 15 | Module Type | Standard |
| Pre-requisites | None | | Co- requisites | None | |
| Excluded Combinations | N/A | | Module Entry requirements | | |
| Valid From | 01/09/2014 | | Valid to | 01/09/2020 | |

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| CAP Approval Date | 28/03/2014 |
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| Part 2: Learning and Teaching | |
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| Learning Outcomes | <p>On successful completion of this module students will be able to:</p> <ol style="list-style-type: none"> 1) Have an overview of the publishing industry, open access publishing, and insight into peer-review processes. 2) Retrieve, manage and critically evaluate the scientific literature relevant to life sciences and their field of study. 3) Apply search strategies for seeking information across a number of electronic databases, applying Boolean notation to retrieve scientific literature effectively and efficiently. 4) Demonstrate an understanding of peer-review processes (in relation to the publishing industry, in critical appraisal and in other professional documentation such as funding applications). 5) Understand the principles of good experimental design, and select and perform appropriate statistical techniques for the analysis of data. 6) Understand principles of research governance including ethical approval and laboratory health and safety. 7) Consolidate laboratory disciplines (governance, design and practical skills) in a series of practical sessions that result in the writing of a full report. |
| Syllabus Outline | The module provides advanced desk-top skills appropriate to forensic science students. It covers principles of good experimental design and methods for the collection and assessment of data quality and method validation. Students complete |

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| | <p>exercises in descriptive statistics, inferential statistics and hypothesis testing. They understand the importance of statistical significance, variance, regression, covariance. Students are able to select appropriate statistical methods and apply these skills in practical write-ups.</p> <p>Students gain an overview of the publishing industry and learn about copyright and open practices (open data, open access, open licensing). Students develop desk top research skills by developing effective literature searching strategies and skills in critical appraisal and scientific writing. Students learn and practice peer-review exercises as applied to research papers and grant applications.</p> <p>Students learn the characteristics of successful research, including research governance, bioethics and ethical standards frameworks and committees.</p> <p>Students will hone their understanding of study design by applying their knowledge to laboratory experimentation in a number of practicals; sessions will cover basic laboratory techniques relevant to forensic science. The work will be disseminated in a laboratory report.</p> |
| Contact Hours | <p>There are a total of 60 contact hours in this module (5 hours per week over a 12 week period – delivered in semester one). 2 hours per week are lectures delivering the theoretical aspects of the module. 3 hours per week will be practice based, either statistical analysis computer based sessions, laboratory practical session or other skills workshops.</p> |
| Teaching and Learning Methods | <p>Delivery of the material in this module will involve a mixture of lectures, practical classes, tutorials and student-centred skill development exercises. The emphasis throughout will be on the acquisition and development of the skills required by a research scientist in any laboratory discipline for example biomedical science or forensic science.</p> <p>Class sessions will involve interactive discussions and tasks (e.g. peer-review exercises). On-line elements will provide students with real-life experience of peer-review of journal publications.</p> <p>Specialist skills sessions in statistical analysis will take place in IT laboratories, and student laboratory skills be developed in practical sessions.</p> <p>The assessment criteria against which the elements of the module will be judged will be given to students at the start of the academic session in the MODULE HANDBOOK and also available on BLACKBOARD.</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 interested in applying for.</p> <p>Further detail on Key Information Sets and how the University is implementing its requirements can be found at https://share.uwe.ac.uk/sites/ar/kis/KIS%20Background%20Information/Forms/AllItems.aspx This also contains further guidance on how to complete the information requested below.</p> <p>A KIS is required for every undergraduate programme (including integrated Masters and foundation degrees) so please fill this section if this module will contribute to an undergraduate programme.</p> <p><i>Double click in the table and type over the number of hours – the table will total automatically. Please ensure that it totals correctly.</i></p> |

| Key Information Set - Module data | | | | |
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| 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 | 60 | 60 | 0 | 120 |

| Total assessment of the module: | |
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| Written exam assessment percentage | 35% |
| Coursework assessment percentage | 65% |
| Practical exam assessment percentage | 0% |
| | 100% |

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| Reading Strategy | <ul style="list-style-type: none"> • At Masters level students are expected to demonstrate the ability to find information, assess its relevance and utilise it in their studies in an independent manner; however the programme team recognise that students entering the programme may be at different levels of the development of the skills required to undertake this successfully. • Therefore module leaders will provide a starting point in terms of core readings and the lecture material. However it is in the area of further reading that students will develop independent learning, and find these resources themselves as would any researcher. • Support will be provided in induction week, specifically in the library induction, and teaching sessions on retrieving and evaluating information. • The indicative list on this module specification will be reflected on the MODULE HANDBOOK and BLACKBOARD, and may change as and when new work is published. • All students have access to library membership and can make full use of the print and electronic resources. |
| Indicative Reading List | <p>THE FOLLOWING ARE AVAILABLE VIA THE UWE LIBRARY CATALOGUE</p> <p>Mepham, B. (2005). <i>Bioethics - and introduction for the biosciences</i>. Oxford: Oxford University Press.</p> <p>Bryant, J.A., Baggott la Velle, L. & Searle, J. (2005). <i>Introduction to Bioethics</i>. New York: John Wiley & Sons Ltd.</p> <p>Bland, M. (1995) . <i>An introduction to medical statistics</i>. 2nd ed. Oxford: Oxford University Press.</p> <p>Dunn, O. J. & Clark, V.A. (2001 3rd ed.). <i>Basic statistics: a primer for the biomedical sciences</i>. New York: John Wiley.</p> <p>Campbell, M.J. & Machin, D. (1999) <i>Medical statistics: a common sense approach</i>. 3rd ed. New York: Wiley.</p> |

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| | <p>Davis, M. and Fry, G. (1996). <i>Scientific papers and presentations</i>. Oxford: Academic Press.</p> <p>Malmfors, B. Garnsworthy, P. C. and Grossman, M. (2004). <i>Writing and presenting scientific papers</i>. Nottingham: Nottingham University Press.</p> <p>Northey, M. & Jewinski, J. (2012) <i>Making sense - a student's guide to research and writing</i>. 4th ed. Oxford: Oxford University Press.</p> |
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| Part 3: Assessment | |
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| Assessment Strategy | <ul style="list-style-type: none"> The assessment strategy matches appropriate professional research activities that the student will experience in their scientific career that includes data analysis and interpretation, and critical appraisal. <p>FORMATIVE ASSESSMENT</p> <ul style="list-style-type: none"> Students will receive formative feedback on ONE DRAFT of each item of their coursework. <p>SUMMATIVE ASSESSMENT IS OUTLINED BELOW.</p> |
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| Identify final assessment component and element | | |
| % weighting between components A and B (Standard modules only) | A: 35 | B: 65 |
| First Sit | | |
| Component A (controlled conditions) Description of each element | Element weighting (as % of component) | |
| Exam (Research paper critique) – final assessment. | 100% | |
| Component B Description of each element | Element weighting (as % of component) | |
| Data handling and interpretation. | 50% | |
| Practical laboratory report. | 50% | |

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| Resit (further attendance at taught classes is not required) | | |
| Component A (controlled conditions) Description of each element | Element weighting (as % of component) | |
| Exam (Research paper critique) – final assessment. | 100% | |
| Component B Description of each element | Element weighting (as % of component) | |
| Data handling and interpretation. | 50% | |
| Practical laboratory report. | 50% | |
| 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. | | |