PRIFYSGOL glyndŵr UNIVERSITY

MODULE SPECIFICATION FORM

Module Title: Forensic Research	Level: 5	Credit Value: 20

Module code: SCI520 (if known)	Cost Centre: GAFS	JACS2 code:

Semester(s) in which to be offered: 2	With effect from: September 2015

Office use only: To be completed by AQSU:	Date approved: September 2015 Date revised: Version no: 1

Existing/New: New	Title of module being replaced (if any): Forensic Imaging

Originating Academic Department: Applied Science	Module Leader: Dr Christopher Rogers

Module duration (total hours): 200 Scheduled learning & teaching hours 50 Independent study hours 150 Placement hours	Status: core/option/elective (identify programme where appropriate): Core

Programme(s) in which to be offered: BSc Forensic Science	Pre-requisites per programme (between levels): None

Module Aims:

To enable students to make an informed decision regarding the subject area of their level 6 Forensic Science research project.

To equip students with a range of skills and knowledge considered essential for successful completion of the level 6 research project.

To help students understand the nature of research and reflect upon their development as researchers. To develop students transferable skills.

Expected Learning Outcomes:

At the end of this module, students should be able to:

Knowledge and Understanding:

1. Critically peer review Forensic Science final year dissertations including the effective use of assessment rubrics.
2. Source and critically evaluate research output from a range of published literature to include research articles, theses, review papers, and books.
3. Articulate knowledge of professional standards in research including ethics, avoiding plagiarism and safe working practices.
4. Demonstrate a working knowledge of statistics as applied to research, from formulating a research question to analysis of research output.

Transferable/Key Skills and other attributes:

Create a risk assessment.
Outline an action plan for their intended research
Use relevant IT skills.
Critical evaluation of material.
Collect data and present a report using standardised procedures.

Assessment:

Assessment 1: Students submit a portfolio of their work, specifically mini-projects such as:

- a report comprising a critique of a specimen dissertation and its assessment using a marking rubric
- a project proposal comprising a mini-literature review, assessment of ethical and safety issues and methodology for their intended Year 6 project.
- completion of a statistical analysis of given experimental data
- a critical reflection of their portfolio to include self-assessment of their readiness for commencing their dissertation project and an action plan to address any shortfalls highlighted.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting	Duration (eg, if exam or presentation)	Word count (or equivalent if appropriate)
1	all	Portfolio	100%		4000

Learning and Teaching Strategies:

The module will be taught through introductory lectures on general principles, workshops on statistical and computer methods, and individual tutorials to guide the development of each proposal.

Independent student-directed learning will enable students to delve more deeply into the subject material, enhancing their learning, while developing their IT skills.

Syllabus outline:

Criteria for dissertations and analysis of examples.
Information retrieval and literature reviews.
Formulating a research question.
Plotting a research path.
Experimental design
Action plans.
Professional conduct: safe working practice, ethics, avoiding plagiarism.
A framework for statistical analysis; tests of association and difference.
Data analysis with R.
Graphical presentation with R.
Reflection and self-assessment
Designing and using questionnaires

Bibliography:

Essential reading:

Kumar, R., 2014. *Research Methodolgy: A Step-by-step Guide for Beginners*. 4th Ed. Thousand Oaks, CA: Sage Publications Inc.

Wisker, G., 2009. *The Undergraduate Research Handbook*. Basingstoke: Palgrave Macmillan.

Other indicative reading:

Dytham, C. 2010. Choosing and Using Statistics: A Biologist's Guide. 3rd Ed. Oxford. Wiley-Blackwell.

Langford, A. Dean, J. Reed, R. Holmes, D. Weyers, J. Jones, A. 2005. Practical Skills in Forensic Science. Essex. Pearson Prentice Hall.

Davies, M. and Hughes, N., 2014. *Doing A Successful Research Project Using Qualitative or Quantitative methods*.2nd Ed. Basingstoke: Palgrave Macmillan.

Fink, A., 2014. *Conducting Research Literature Reviews: From the Internet to Paper.* 4th Ed. Thousand Oaks, CA: Sage Publications Inc.

Blaxter, L., Hughes, C. and Tight, M., 2010. *How To Research*. 4th Ed. Maidenhead: Open University Press.