



**ACADEMIC SERVICES**

**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	Neurophysiology and Brain Imaging				
Module Code	USPKJL-15-3	Level	3	Version	1
UWE Credit Rating	15	ECTS Credit Rating	7.5	WBL module?	No
Owning Faculty	Health and Applied Sciences	Field	Psychology		
Department	Health and Social Sciences	Module Type	Standard		
Contributes towards	BSc (Hons) Psychology BSc (Hons) Psychology with Criminology BSc (Hons) Psychology with Sociology BSc (Hons) Psychology with Law BSc (Hons) Criminology with Psychology BSc (Hons) Sociology with Psychology BSc (Hons) Law with Psychology				
Pre-requisites	USPSTY-30-2 Mind, Brain and Development	Co- requisites	None		
Excluded Combinations	None	Module Entry requirements	None		
First CAP Approval Date	2 <sup>nd</sup> February 2016	Valid from	September 2016		
Revision CAP Approval Date	N/A	Valid from	September 2016		

<b>Review Date</b>	January 2022
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## Part 2: Learning and Teaching

Learning Outcomes	<p>On successful completion of this module students will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate an understanding of neurophysiology and brain imaging (Component A, B)</li> <li>• Understand the difference in information that different brain imaging methods capture (Component A, B)</li> <li>• Critically evaluate neurophysiology and brain imaging research and methodology (Component B).</li> <li>• Demonstrate practical application of theoretical, psychological, behavioural, experimental timing and methodological knowledge in design and programming of brain imaging research (Component A)</li> </ul>
Syllabus Outline	<p>The content of the module may vary from year to year to take account of the expertise of staff and developments in the field. However the list below provides a summary of the potential content for this module which focuses on neurophysiology and brain imaging, including potentially:</p> <ul style="list-style-type: none"> <li>• EEG, MEG, DTI, fMRI, MRI, PET and other imaging methodologies</li> <li>• Methodological issues within each measure including issues of timing, directness of measure, analysis, interpretation;</li> <li>• Practical skills: programming and running EEG experiments.</li> </ul>
Contact Hours	<ul style="list-style-type: none"> <li>• <i>Scheduled learning:</i> Scheduled learning for this project will be approximately 36 hours and may take several forms, such as lectures, seminar discussion, practical workshop on assessment and diagnosis, films, virtual learning environments (VLEs) and other technology-aided means.</li> <li>• <i>Independent learning:</i> Students will be expected to spend 114 hours on independent learning tasks and preparation of assessments.</li> </ul>
Teaching and Learning Methods	<p><b>Scheduled learning</b> includes lectures, seminars, tutorials, practical classes and workshops.</p> <p><b>Independent learning</b> includes hours engaged with essential reading, assignment preparation and completion etc. A variety of approaches will be used with the aim of maximising the active engagement of students. These may include:</p> <ul style="list-style-type: none"> <li>• Lectures</li> <li>• Seminars/ Workshops</li> <li>• Directed and Independent Learning</li> <li>• Formative Assessment Opportunity</li> </ul> <p>TEL. Students will be enabled to use Blackboard the university supported virtual learning environment to organise and communicate their learning material. Students will be able to engage with the material, other students and members of staff through this system and make use of the various functionalities built into the Blackboard (e.g., blogs, journals, audio, video, discussion boards, wikis, etc.). Innovative technologies will be used to enhance in class interaction such as the Turning Point technologies</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>

**Key Information Set - Module data**

Number of credits for this module

15

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours	
150	36	114	0	150	

The table below indicates as a percentage the total assessment of the module which constitutes a -

**Written Exam:** Seen written exam, open book written exam, In-class test  
**Coursework:** Written assignment or essay, report, dissertation, portfolio, project  
**Practical Exam:** Oral Assessment and/or presentation, practical skills assessment, practical exam

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:

Total assessment of the module:

Written exam assessment percentage  
 Coursework assessment percentage  
 Practical exam assessment percentage

40%
60%
0%
100%

Reading Strategy

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 as well as specific study skills training within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

Any **core 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 in the module handbook and via the module information on Blackboard or through any other vehicle deemed appropriate by the module leader.

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.

Indicative Reading List

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.

Dickter, C. L. (2014). *EEG Methods for the Psychological Sciences*. Los Angeles:

	<p>Sage. (ebook online)</p> <p>Luck, S.J. (2005) <i>An introduction to the event-related potential technique</i> Cambridge MA : MIT.</p> <p>Brette, R., &amp; Destexhe, A. (2012). <i>Handbook of neural activity measurement</i>. Cambridge: Cambridge University Press</p> <p>Zani, A &amp; Proverbio, A. (2009) <i>The Cognitive Electrophysiology of Mind and Brain..</i> Amsterdam: Academic Press.</p> <p>Michel, C.M., Koenig, T., Brandeis, D., Gianotti, L.R.R and Wackermann, J. (2009) <i>Electrical Neuroimaging</i>. Cambridge University Press. (ebook online)</p>
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<b>Part 3: Assessment</b>	
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Assessment Strategy	<p>The assessment criteria for both components A and B directly relate to the listed learning outcomes including the critical appraisal of the relevant literature and a clear understanding of the findings for theory development as well as practice (e.g., clinical and educational or public health) and wider societal well-being.</p> <p><b>Component A (Controlled condition)</b></p> <p>The component A is comprised of a practical demonstration of EEG methodology in the laboratory setting showing a critical understanding of practical application of theoretical, psychological, behavioural, experimental timing and methodological knowledge in design and programming of brain imaging research.</p> <p><b>Component B (Coursework Portfolio)</b></p> <p><b>Portfolio:</b></p> <p>The Portfolio is designed to assess the extent to which students can demonstrate practical application of theoretical, psychological, behavioural, experimental timing and methodological knowledge in design and programming of brain imaging research. The portfolio would consist of short worksheets associated with each topic material in addition to a practical write-up based on a mini-study conducted in small groups that uses EEG methodology.</p> <p>For the resit assessment, which occurs outside standard teaching time, it will not be possible to replicate the lab sessions and to provide participants for data collection. For this reason the resit assessments are different from those for the first opportunity.</p>
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Identify final assessment component and element		
<b>% weighting between components A and B</b> (Standard modules only)	<b>A:</b> <b>40</b>	<b>B:</b> <b>60</b>
<b>First Sit</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>	
EX1 Practical Demonstration of EEG (20 min)	100	

<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>
CW1 Coursework portfolio (equivalent to 1500 words)	100

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

<b>Component A (controlled conditions)</b> <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>
EX1 Practical Demonstration of EEG (20 min)	100

<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>
CW 1 Research Proposal with Background and Methodology (1500 words)	100

If a student is permitted a retake of the module under the University Regulations and Procedures, the assessment will be that indicated by the Module Description at the time that retake commences.