Module Specification

Methods in Neuroscience

Version: 2024-25, v5.0, 18 Apr 2024

Contents

Part 1: Information

Module title: Methods in Neuroscience

Module code: USPKJN-15-3

Level: Level 6

For implementation from: 2024-25

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Health, Science & Society

School: CHSS School of Social Sciences

Partner institutions: None

Field: Psychology

Module type: Module

Pre-requisites: Mind, Brain, and Development 2024-25

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module explores multiple technical methodologies that provide researchers and practitioners insight into the neurological underpinnings of cognition. Alongside traditional lectures, students will develop their practical technical skills (operation, data collection and analysis) in laboratory based workshop sessions.

Features: Not applicable

Educational aims: The aims of this module are to equip students with basic skills for using select technical apparatus used in neuroscience and to develop a critical understanding of the various methodologies and evaluate the strengths/limitations of usage in various applications such as health, clinical and research settings.

Outline syllabus: The content of the module varies 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 of this module which focuses on physiological and neurophysiological research methods in psychology and cognitive neuroscience.

Potential topics include:

- nerve conduction velocity, autonomic measures, EDA, EMG, EEG, EOG, fMRI, and eye-tracking;

- methodological issues with each measure including timing, directness of measure, analysis, and interpretation;

- behavioural and neuropsychological testing;

- programming experiments.

Part 3: Teaching and learning methods

Teaching and learning methods: Scheduled learning will take a variety of forms, such as lectures, seminars, workshops, and online materials. Independent learning includes essential and further reading, assignment preparation and completion, etc. Throughout the module students will collect a portfolio of evidence for the module learning outcomes.

The following Generic Graduate Skills will be also be Introduced (I), Practiced (P), or Evidenced (E):   1. Communication   2. Professionalism (E) 3. Critical Thinking (E)

4. Digital Fluency (E) 5. Innovative and Enterprising (E) 6. Forward Looking (E) 7. Emotional Intelligence   8. Globally Engaged

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Demonstrate a critical understanding of a variety of physiological and neurophysiological methods used in psychology and cognitive neuroscience

MO2 Critically evaluate information that is captured by different physiological and neurophysiological methods

MO3 Critically evaluate the utility, effectiveness and efficiency of methods in terms of time, cost, specificity and sensitivity in a research and clinical context.

MO4 Demonstrate an understanding and awareness of theoretical, psychological, behavioural, experimental timing, and methodological issues in the design and execution of cognitive neuroscience and psychology research that involves physiological or neurophysiological methods

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/uspkjn-15-3.html

Part 4: Assessment

Assessment strategy: There will be two summative assessments where students will demonstrate their understanding and knowledge of physiological and neurophysiological methodologies as employed in contemporary psychology and cognitive neuroscience research. These assessments are aligned with BPS

standards and will be described in detail within the module handbook/assessment brief and will include:

   (1) a portfolio of evidence to demonstrate topic understanding and practical use of technical lab skills. Students will have formative feedback of their topic understanding and lab work across the module. For the summative aspect of the portfolio, students will have the opportunity to demonstrate skills throughout the regular timetabled lab sessions (or via video presentations) and topic knowledge via short online quizzes. It is intended that much of the portfolio work would be done during timetabled class sessions and no formal submission of a collated portfolio is required.

   (2) a written assignment demonstrating a critical understanding of research methodologies in various applications such as health, clinical and/or research settings. Students will have the opportunity to start the assessment from the outset of the module, with in-class verbal feedback opportunities on a regular basis.

Where students are required to re-sit one or both of the assessments on the module, comparable assessments will be provided to ensure all learning outcomes have been achieved.

Assessment tasks:

Portfolio (First Sit)
Description: Practical demonstration of topic understanding and lab skills. Paths to demonstration may include (but not limited to) online quizzes and lab demonstrations of methods.
Weighting: 35 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO4

Written Assignment (First Sit)
Description: Written work demonstrating a critical understanding of research methods in application (word count max 1400 words)

Weighting: 65 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3

Portfolio (Resit)

Description: Practical demonstration of topic understanding and lab skills. Paths to demonstration may include (but not limited to) online quizzes and lab demonstrations of methods.

Weighting: 35 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO4

Written Assignment (Resit)

Description: Written work demonstrating a critical understanding of research methods in application (word count max 1400 words)

Weighting: 65 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Psychology (Applied) [Frenchay] BSc (Hons) 2024-25

Psychology with Criminology [Frenchay] BSc (Hons) 2022-23

Sociology with Psychology [Frenchay] BSc (Hons) 2022-23

Criminology with Psychology [Frenchay] BSc (Hons) 2022-23

Law with Psychology [Sep][FT][Frenchay][3yrs] - Withdrawn LLB (Hons) 2022-23

Applied Psychology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Health Psychology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Social Psychology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Biological Psychology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Psychology and Mental Health [Sep][FT][Frenchay][3yrs] BSc (Hons) 2022-23

Psychology [Frenchay] BSc (Hons) 2022-23

Applied Psychology [Frenchay] BSc (Hons) 2022-23

Sociology with Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Law with Psychology [Sep][SW][Frenchay][4yrs] LLB (Hons) 2021-22

Criminology with Psychology {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Criminology with Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Applied Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Psychology {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Health Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Biological Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Social Psychology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Psychology and Mental Health [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Sociology with Psychology {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Psychology with Criminology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2021-22

Psychology with Criminology {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22

Criminology with Psychology {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21

Sociology with Psychology {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21

Psychology {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21

Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2020-21

Psychology with Criminology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2020-21

Psychology with Criminology {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2020-21

Applied Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2020-21

Sociology with Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2019-20

Criminology with Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2019-20

Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2019-20

Psychology with Criminology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2019-20

Applied Psychology [Sep][PT][Frenchay][6yrs] BSc (Hons) 2019-20

Psychology with Criminology {Foundation} [Sep][PT][Frenchay][8yrs] BSc (Hons) 2018-19

Psychology with Sociology {Foundation} [Sep][PT][Frenchay][8yrs] - Withdrawn BSc (Hons) 2018-19

Psychology {Foundation} [Sep][PT][Frenchay][8yrs] BSc (Hons) 2018-19