PS904-10 Practical Research Skills for Psychology (ESRC DTP Version)

22/23

Department
  Psychology
Level
  Taught Postgraduate Level
Module leader
  Derrick Watson
Credit value
  10
Module duration
  9 weeks
Assessment
  100% coursework
Study location
  University of Warwick main campus, Coventry

Description

Introductory description

The overall aim of this module is to provide advanced training in methods for studying human behaviour.

Module aims

TThe main themes are computer programming for designing and analyzing experiments, eye movement measurement and analysis, measuring and analysing physiological variables (e.g., EDA, HRV, facial EMG) and an introduction to basic imaging techniques. No prior computer programming knowledge is assumed. The training is delivered via a combination of lecture / practical sessions and homework programming exercises.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

This module will cover computer programming looking at variables and data types, programming

structure and functions and 2 and 3D graphics. It will look at basic physiological measurements and a number of ways in which these can be conducted using different equipment.

Learning outcomes

By the end of the module, students should be able to:

- - Evaluate and critique the appropriateness of key experimental methods available for assessing human performance.
- - Design and implement advanced and novel console, 2D and 3D computer programmes for PC, Mac and Linux based systems.
- - Analyse and debug computer code (emphasis on Blitzmax but application to other languages).
- - Identify and critically evaluate when physiological measures are appropriate in psychological research.
- - Identify and evaluate the most appropriate analysis techniques for eye-movement and physiological measures of human behaviour.

Indicative reading list

Blitzmax programming language, tutorials and resources: https://blitzmax.org/ Boucsein, W. (2012).

Electrodermal Activity. Spring. Fisher, D.L., Rizzo, M., Caird, J., & Lee, J.D. (2017).

Handbook of Driving Simulation for Engineering, Medicine, and Psychology. CRC Press. Rayner, K. (1998).

Eye movements in reading and information processing: 20 years of research. Psychological Bulletin, 124, 372-422.

For extending what you learn to other languages (Python and Javascript) please see:
Hall, T., & Stacey, J.P. (2009). Python 3 for absolute beginners. Springer Langtangen, H.P. (2009). Python scripting for computational science. Springer McNavage, T. (2010). Javascript for absolute beginners. Springer

[View reading list on Talis Aspire](#)

Subject specific skills

- Understanding of experimental methods
- Experience of programming of 2D and 3D models
- Understanding of computer coding

Transferable skills

- Critical evaluation
- Understanding of analytical techniques
- Programming skills

Study

Study time

Type	Required
Lectures	9 sessions of 1 hour (9%)
Practical classes	9 sessions of 1 hour (9%)
Private study	82 hours (82%)
Total	100 hours

Private study description

hours of study and preparation for assessment

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A1

	Weighting	Study time
Practical report	100%	

4000 practical report from a choice of two:

- Programming assignment
- Critical evaluation assignment

Feedback on assessment

Formative feedback: during practical sessions/lab follow-up sessions. Summative feedback: written feedback and comments on practical reports.

Availability

Courses

This module is Optional for:

- Year 1 of TIMA-L981 Postgraduate Social Science Research