1. **KentVision Code and title of the module**

PSYC8013 Psychometrics

1. **Division and School/Department** **which will be responsible for management of the module**

Division of Human and Social Sciences, School of Psychology

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 7

1. **The number of credits and the ECTS value which the module represents**

10 Credits (5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn

1. **Prerequisite and co-requisite modules and/or any module restrictions**

None

1. **The courses of study to which the module contributes**

Compulsory to:

MSc Organisational and Business Psychology

MSc Cognitive Psychology/Neuropsychology

MSc Developmental Psychology

MSc Forensic Psychology

MSc Political Psychology

MSc Social Psychology

Also compulsory on Psychology Postgraduate Research Courses.

Also available as an elective module.

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**

8.1. Demonstrate a conceptual understanding of the scientific basis for scaling psychological attributes; and evaluate the appropriateness of scaling methods for various types of psychological observations;

8.2. Demonstrate a practical understanding of the techniques for inferring measurement on psychological constructs (latent variables) from observed data of different types; and evaluate reliability and validity of such inferences;

8.3. Demonstrate a conceptual understanding of measurement by modelling, and the principles of fitting factor analysis models to observed data;

8.4. Use appropriate statistical software to conduct analyses and to specify and test statistical models taught in the course;

8.5. Interpret and critically evaluate results of statistical analyses and outputs of statistical software; make inferences from the results in applied settings;

8.6. Understand and critically evaluate methods used and results of psychometric analyses reported in the applied psychological literature.

1. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**

9.1. Appreciate theoretical positions and controversies related to psychological measurement;

9.2. Demonstrate an appreciation of the diverse applications of psychometrics and its relevance to the student’s field of study or interest, and behavioural/social sciences more broadly;

9.3. Acquire or improve competence in the use of statistical software to manage and code data, and to conduct psychometric analyses for a range of applications.

1. **A synopsis of the curriculum**

This module provides a postgraduate-level foundational course in Psychometrics, also known as ‘test theory’ or 'theory of psychological tests and measurements’. It is intended primarily for students of psychology and any other field of social science where test are constructed or used, but also for students with a mathematics/statistics background interested in psychometric testing. The module introduces students to the main quantitative concepts, methods, and computational techniques needed for the informed use, development, evaluation, and application of tests in the behavioural/social sciences, including educational tests. The course begins with describing fundamental properties and levels of measurement, and some models and methods for ‘scaling’ an attribute. Fundamental concepts of Classical Test Theory such as ‘true score’ and ‘error of measurement’ are considered, and key techniques needed for evaluating reliability and validity of test scores are studied. Factor analysis is studied in depth as a fundamental technique to evaluate the number and structure of attributes the test measures. Factor analytic methods are extended to binary and ordinal test items, and Item Response Theory methods are introduced including Rasch scaling. With these foundations, psychometric applications from various fields of behavioural studies are considered, and it is demonstrated how the choice of scaling method can have implications for substantive conclusions.

1. **Reading list**

## The University is committed to ensuring that core reading materials are in accessible electronic format in line with the Kent Inclusive Practices.

## The most up to date reading list for each module can be found on the university's [reading list pages](https://kent.rl.talis.com/index.html).

1. **Learning and teaching methods**

Total contact hours: 30

Total private study hours:70

Total module study hours: 100

1. **Assessment methods**
   1. Main assessment methods

Theory ICT 20%

Computing ICT 1 20%

Group Based Practical Report 60%

13.2 Reassessment methods

100% examination

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

**Module learning outcomes against learning and teaching methods:**

| **Module learning outcome** | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 9.1 | 9.2 | 9.3 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Private Study | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** | **x** |
| *lectures* | **x** | **x** | **x** |  |  | **x** | **x** | **x** |  |
| *computing workshops* |  |  |  | **x** | **x** | **x** |  |  | **x** |

**Module learning outcomes against assessment methods:**

| **Module learning outcome** | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 9.1 | 9.2 | 9.3 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Theory ICT* | **X** | **X** | **X** |  |  | **X** | **X** |  |  |
| *Computing ICT* |  |  |  | **X** | **X** | **X** |  |  | **X** |
| *Group Based Practical Report* | **x** | **x** | **x** | **x** | **x** |  | **x** | **x** | **x** |

1. **Inclusive module design**

The Division recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

The curriculum of this module has been designed to incorporate contemporary techniques and methodological approaches taught on internationally recognised statistics and measurement programmes. Specifically, we included in the module content the discussion of issues in measuring psychological variables in the international context, such as measurement invariance in cross-cultural research or worldwide assessment programmes.

**DIVISIONAL USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
|  | New | Sept 24 |  |  |