Module Title **Nutritional Research Methods** **Keywords** Data handling, statistics, research, anthropometry.	Reference AS2028 SCQF Level SCQF 8 SCQF Points 15 ECTS Points 7.5 Created August 2002 Approved September 2004 Amended May 2011 Version No. 3

This Version is No Longer Current

The latest version of this module is available here

Prerequisites for Module

None, in addition to SCQF8 entry requirements.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To provide students with the ability to analyse, and interpret the research literature and to design research projects.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

Indicative Student Workload

Contact Hours	Full Time
Assessment	3
Lecture/tutorials	24
Practicals	18
Directed Study	
Directed Study	20
Private Study	
Private Study	85

Mode of Delivery

Theoretical material is delivered by lecture/tutorials, practical classes are used for examples of calculations, discussion of research literature, application of statistical computer programs, and development of skills in anthropometry.

Assessment Plan

1. Use statistical techniques to describe and manage data, select appropriate tests, perform statistical tests using a computer program, and interpret and illustrate research results.
2. Explain the principles of research design including survey questionnaires, food frequency questionnaires, qualitative and quantitative methods, and critically evaluate the methods used in published studies.
3. Explain the use, interpretation, and limitations of anthropometry to determine body composition and nutritional status.

Indicative Module Content

Principles of scientific enquiry and evidence based practice ? introduction to research ethics and law. Definition of population, parameter, sample, and statistic, validity, systematic variation, bias and confounding. Surveys, questionnaire design, qualitative research, interviews, and focus groups. Methods for anthropometry and assessment of body composition. Forming research questions and hypotheses. Experimental design including randomisation in

	Learning Outcomes Assessed
Component 1	1,2
Component 2	3

Component 1 is an open book examination.

Component 2 is coursework relating to anthropometry and body composition.

Indicative Bibliography

1. COX, D.R., 1992. *Planning of experiments*, classics edition (reprinted from 1958). Oxford: Wiley-Blackwell.
2. RUXTON, G.D. and COLEGRAVE, N., 2011. *Experimental Experimental design for the life sciences*, 3rd ed. Oxford: Oxford University Press.
3. HOLMES, D., MOODY, P. and DINE, D., 2011. *Research methods for the biosciences*, 2nd ed. Oxford: Oxford University Press.
4. HUCK, S.W. and CORMIER, W.H., 1996. *Reading statistics and research*. New York: Harper Collins.
5. CAMPBELL, M.J. and SWINSCOW,T.D.V., 2009. *Statistics at square one*, 11th ed. Oxford: Wiley-Blackwell.

including randomisation in sampling, assignment to treatments, blinding, and measurements. Nature and classification of data, level of significance, type I and type II errors, Simpson?s paradox, multiple tests of significance, central tendency, dispersion of data, simple probability theory, population distributions, confidence intervals, distribution of sample means. Determination of appropriate statistical tests, experimental units, power, one-tailed and two-tailed tests. Correlations, regressions, and Bland-Altman plots. Entering and manipulating data in statistical computer programs and conducting statistical tests. Use of computer program for tables of data, plots and histograms.

Additional Notes

Students will cover the requirements for Level 1 accreditation by the International Society for the Advancement of Kinanthropometry and may have the opportunity to submit for extracurricular examination for an ISAK certificate.