|  | Reference AS2028<br>SCOF Level SCOF 8 |
|--|---------------------------------------|
| Module Title   | SCQF Points 15                        |
| Nutritional Research Methods   | ECTS Points 7.5                       |
|  | Created August 2002                   |
| <b>Keywords</b><br>Data handling, statistics, research, anthropometry. | Approved September 2004               |
|  | AmendedMay 2011Version No.3           |

# This Version is No Longer Current

The latest version of this module is available <u>here</u>

#### **Prerequisites for Module Indicative Student Workload** None, in addition to SCQF8 **Full Time** Contact Hours entry requirements. 3 Assessment Lecture/tutorials 24 **Corequisite Modules Practicals** 18 None. Directed Study **Directed Study** 20 **Precluded Modules** Private Study None. **Private Study** 85

# 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:

# **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<br>Assessed |
|----------------|-------------------------------|
| Component<br>1 | 1,2                           |
| Component<br>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.

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.