1. **Title of the module**

SO955 (SOCI9550) Quantitative Methods in Health Research

1. **School or partner institution which will be responsible for management of the module**

School of Social Policy, Sociology and Social Research (Centre for Health Services Studies)

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

Level 7

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

20 credits (10 ECTS)

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

Autumn (term 1)

1. **Prerequisite and co-requisite modules**

None

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

MSc Applied Health Research

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to:**
   1. Demonstrate an understanding of the fundamental concepts in quantitative research methods, including an ability to describe the relationship between uncertainty, a research question, hypotheses, the hierarchy of research methods and research methods and the most common forms of bias in applied health research.
   2. Confidently and constructively appraise quantitative methods for answering a variety of research questions by demonstrating an ability to identify the value and limitations in any particular method.
   3. Explain the main ethical dilemmas facing applied health researchers.
   4. Demonstrate an understanding of the importance of well-formulated research questions and their relation to project initiation, including selecting valid quantitative methods; and an ability to formulate a specific and precise question that defines a topic as relevant, researchable and important.
   5. Understand the statistical aspects of published research, interpreting statistical output in relation to hypothesis testing.
2. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to:**
   1. The capacity for self-directed and independent study and the application of subject specific learning outcomes to the production of coherent and constructive summaries and reviews of a research project; and the ability to plan and justify chosen methods for a single piece of original research.
   2. The capacity and value for collegiate working. They will - through workshops - express and defend arguments professionally and constructively.
   3. The ability to analyse and interpret statistical and numerical data in the form of tables, charts and/or graphs as presented in the context of research articles, reports and policy documents, including the findings of clinical trials.
   4. The ability to summarise detailed and complex bodies of information concisely and accurately and present information in a written and oral form.
   5. The ability to critically appraise problems and autonomously develop and propose original solutions; deciding on a course of action; and reviewing the relative success of this course of action.

**A synopsis of the curriculum**

Choosing and designing the most appropriate method to address a clinical question is paramount in generating the best evidence. The aims of this module are to equip students with the requisite skills to apply the scientific approach and the basics of critical appraisal to quantitative methods used within the context of research evaluating health care interventions. This should enable participants to formulate research ideas and identify appropriate methods with which to test their hypotheses. They will also become ‘critical consumers’ of research with the knowledge and understanding necessary to evaluate research appropriately.

The module provides an introduction to a range quantitative research methods that are commonly used within applied health research including secondary (systematic reviews and meta-analysis) and primary methods (cohort studies, case control and randomised controlled trials). Much of the module will be devoted to providing an overview of the development pathway for interventions within the context of randomised controlled trials. Students will learn about the techniques of trial design and the role and importance of discrete projects for the demonstration of ‘proof of concept’, feasibility, efficacy, and effectiveness.

As students learn to identify the strengths and weaknesses of 6 key study designs, they will also learn how to design a research protocol. Participants will design data collection and analysis. They will also learn strategies to manage bias and assess the quality of published research. The module includes exposure to the techniques involved in analysing quantitative data, as well as considering ethical and governance issues relating to research within the context of the NHS.

Each week students are provided with research articles that are compulsory reading for discussion in seminars/workshops. Each reading provides an example of methods as used in research, their potential in addressing specific kinds of research questions, and their relevance for evaluating health interventions.

**Reading List (Indicative list, current at time of publication. Reading lists will be published**

**annually)**

Sackett D. L, Straus S E, Richardson W S,.Rosenberg W, and Haynes R B Evidence-Based Medicine: How to Practice and Teach EBM. Churchill Livingstone (2000)

Greenhalgh T, How to read a paper; the basics of evidence-based medicine (2010) Wiley-Blackwell

Pocock, S. J. (1983). Clinical trials: a practical approach. Chichester, John Wiley

Higgins, J.P.T., and Green, S. (eds) (2008). Cochrane Handbook for Systematic Reviews of Interventions Oxford, The Cochrane Collaboration. John Wiley and Sons Ltd

Senn S (2002) Cross-over Trials in Clinical Research (2nd Ed) John Wiley & Sons Ltd.

Coolican H (2013) Research Methods and Statistics in Psychology (5th Ed) Routledge

1. **Learning and Teaching methods**

Total contact hours: 33

Private study hours: 167

Total study hours: 200 hours

1. **Assessment methods.**

13.1 Main assessment methods

13.1.1 Coursework - essay (2000 words) - (40%)

13.1.2 Coursework – essay (3000 words) - (50%)

13.1.3 Coursework - Verbal presentation (10-minutes) - (10%)

13.2 Reassessment methods

13.2.1 Like for like.

1. ***Map of Module Learning Outcomes (sections 8 & 9) to Learning and Teaching Methods (section12) and methods of Assessment (section 13)***

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | *8.1* | *8.2* | *8.3* | *8.4* | *8.5* | *9.1* | *9.2* | *9.3* | *9.4* | *9.5* |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |
| Private Study | 🗸 | 🗸 |  | 🗸 | 🗸 | 🗸 | 🗸 |  |  | 🗸 |
| Seminar | 🗸 | 🗸 | 🗸 | 🗸 |  |  | 🗸 | 🗸 | 🗸 | 🗸 |
| Lecture | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |
| Essay 1 (40%) |  | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| Essay 2 (50%) | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| Presentation (10%) |  |  |  |  |  |  |  |  |  |  |

1. **Inclusive module design**

The School 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 (distance learning)

1. **Internationalisation**

The module is taught in a global context and the range of research and presentation skills will be developed that are applicable to international contexts.

**FACULTIES SUPPORT OFFICE USE ONLY**

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

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| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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| Updated by SSPSSR into CMA compliant format December 2018 |