

NANYANG TECHNOLOGICAL UNIVERSITY

National Institute of Education

Physical Education & Sports Science

Course Code: **MES833**

Course Title: Quantitative Research Design and Methods in Physical Education
and Sports Science

Course Duration: 39 hours (3 hours × 13 weeks)

Course Description

This course provides students with a foundation to understand quantitative research designs and measurement strategies, and their applications in the context of physical education and sport. Specifically, the course develops understandings of: the nature of the deductive research process, the use of scientific literature, the definition and evaluation of a research problem, hypothesis formation, scientific investigation and methods, types of research available as well as abstract and report writing in the positivistic paradigm.

Course Objective

Upon completion of this course, the student should be able to achieve the following in the context of quantitative research:

- Analyze research literature;
- Formulate a scientific research problem and testable hypothesis;
- Identify limitations to research;
- Identify different types of research tools available for investigating a clearly defined problem;
- Apply basic statistical techniques in a scientific investigation;
- Write a research abstract or short research report in scientific genre;
- Understand ethics in experimental and quasi experimental research.

Course Assessment

Students are expected to attend all sessions. Assessment will be based on the following elements:

- Project report (individual) 20%
- Group presentation 30%
- Test (individual) 40%
- Contribution to class learning 10%

Assessment Tasks

There will be four assessment tasks.

- Task 1: Group presentation (30%)

You will be expected to provide a group presentation twice. Each group consisting of 4-5 students will develop a research question and examine it empirically in this course. Each presentation (10 min.) will be marked based on the assessments by your peers and instructor. Assessment criteria for the group presentation will be explained when you select a presentation topic.

- Task 2: Peer assessment of presentation (5%)

As a part of contribution to class learning, you will be expected to provide constructive feedback on each group presentation (except for the one you do). In doing so, you will be required to complete a peer evaluation sheet for each group presentation and hand your completed evaluation sheets in to the instructor at the end of each presentation session. Submission of completed criteria sheets for all presentation is required to be awarded of the maximum of 5 marks.

- Task 3: Individual project report (20%)

You will be requested to submit a brief report on the research design of your project, including introduction, literature review, and methods. Your report should be no more than 1,500 words, excluding references.

- Task 4: Test (40%)

You will be expected to take a test. Questions will be based on the work from lectures and readings (e.g., textbook and articles) as well as hand calculations.

Plagiarism

Plagiarism is a very serious university offence the consequences of which could lead to your failure of the course. All you need to know about such practices and the penalties they face can be found the web site: <http://academicintegrity.ntu.edu.sg/>

Assignment Submission

If, due to illness or other legitimate reason, you cannot submit an assignment on the due date, then you must arrange for an extension with the course instructor prior to the submission date. Late assignments will incur a penalty of 10% per day (e.g., 5 days late, loss of 50%).

- All written assignments must be typed and double spaced, following the American Psychological Association (APA) format.

References

Thomas, J., Nelson, J., & Silverman, S. (Eds.) (2010). Research methods in physical activity (6th ed.). Champaign, IL: Human Kinetics.

Useful Resources

Useful readings will be listed in the blackboard throughout the course.