UNIVERSITY OF GOTHENBURG

DEPARTMENT OF FOOD AND NUTRITION, AND SPORT SCIENCE

IKA302 Measurement methods 2 - Movement, strength, body composition and physical capacity, 7.5 higher education credits

Mätmetoder 2 - Rörelse, styrka, kroppssammansättning och fysisk kapacitet, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Department of Food and Nutrition, and Sport Science on 2017-03-15 and was last revised on 2017-05-24 to be valid from 2017-08-28, autumn semester of 2017.

Field of education: Sports Science 100%
Department: Department of Food and Nutrition, and Sport Science

Position in the educational system

Main field of studies	*Specialization*
Sport Science	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

Bachelor degree in sport science, food and nutrition, nutrition, medicine, physiotherapy or equivalent.

Learning outcomes

On successful completion of the course the student will be able to:

Knowledge and understanding

- explain the technical, physiological and mathematical background of the different devices and approaches for the measurements of movement, strength, body composition and physical capacity.

Skills and abilities

- paractice and handle different devices and approaches for the measurements of movement, strength, body composition and physical capacity.

Judgement and approach

- critically evaluate and discus the different devices, approaches and results for the measurements of movement, strength, body composition and physical capacity.
- critically evaluate and discus scientific papers concerning methodological quality (reliability, validity) in relation to measurements of movement, strength, body composition and physical capacity.

Course content

A. Introductionary theoretical lectures

Presenting the research field (movement, strength, body composition and physical capacity) and its measurement methods, methodological challenges and development potentials. These lectures are the fundaments for the practical laboratory work. Topics:

- overview of methods to measure movement, strength, body composition and physical capacity.
- measures/outcomes of the different methods to capture movement, strength, body composition and physical capacity in specific populations.
- technical, physiological and mathematical background of the different devices and approaches for the measurement of movement, strength, body composition and physical capacity.
- reliability and validity of the different devices and approaches for the measurement of movement, strength, body composition and physical capacity.
- novel methods to measure movement, strength, body composition and physical capacity.
- scientific paper and scientific arguments.

B. Supervised laboratoral experiments with evaluation seminars (mandatory)

Groups of students prepare, design and perform measurements of movement, strength, body composition and physical capacity. They learn to use the methods and softwares for data collection, and to create variables and simple databases for evaluation.The tasks are to evaluate these databases and then discuss the findings in relation to previous research. The results and evaluations are prepared and presented at seminars. The practical use of the different methods has to be demonstrated in the lab. The laboratory experiments are supervised by course teachers/tutors.

C. Supporting lectures

Methodological supervision to handle equipment, softwares, creating datasets, searching databases for literature, and read and understand scientific papers.

Form of teaching

Lectures, practical experiments and seminars. The pedagogical idea is learning by practicing, preparing, presenting and debating (argumenting). Teaching combines theoretical knowledge with practical skills. Emphasis is put on training in argumentation based on facts and feedback to performance. The goal is to promote critical thinking and deeper understanding.

Language of instruction: English

Assessment

The course is examined by practical examinations in relation to practical experiments and the handle of methods as well as reading a scientific paper, and the oral presentation at seminary.

If a student is absent from mandatory components, he/she is responsible to contact the person responsible for the course to be provided another course opportunity or alternative task.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

The number of examination opportunities is limited to 5.

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given. It must not go against Chapter 6 Section 21 of Higher Education Ordinance.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).
All mandatory course components need to be completed to pass the course. The final grade is based on the combined performance on all course components.

To receive the grade Pass, one needs to demonstrate skills in handling and understanding of methods and equipment, and actively participating in practical

experiments, group work and seminars. The receive the grade Pass with Distinction, one needs to demonstrate outstanding skills in handling and understanding of methods and equipment, and actively contributing to practical experiments, group work and seminars with a high level analytical skill, critical thinking, argumentation and support to development of discussions.

Course evaluation

Course evaluation is included. Written evaluation is performed using the teaching platform and the result guides development and planning of forthcoming course occasions. The results of and possible changes to the course will be shared with students who participated in the evaluation and students who are starting the course. In addition to the written, summative evaluation, oral, formative evaluations may occur. The person responsible for the course compile a report after the course has finished.