

Exercise as Medicine 7.5 credits

Träning som medicin 7.5 hp

Second cycle

Main field: Exercise Biomedicine, Second cycle, has only first-cycle course/s as entry requirements (AIN)

Syllabus is adopted by the Research and Education Board (2023-02-17) and is valid for students admitted for the autumn semester 2023.

Placement in the Academic System

The course is included in the Master of Science (60 credits) programme in Exercise Biomedicine – Health and performance and is given as a single subject courser.

Prerequisites and Conditions of Admission

Anatomy and physiology 15 credits, Exercise Training 7,5 credits and Bachelor of Science with a major in Exercise Biomedicine, Biomedicine, Physiotherapy, or Sports Science. Applicants must have written and verbal command of the English language equivalent to English course 6 in Swedish Upper-Secondary School.

Course Objectives

The course aims to develop the student's knowledge concerning the link between physical activity/exercise and health. The effects of physical activity/exercise as health promotion and disease prevention with a focus on musculoskeletal diseases and associated comorbidity is studied. Metabolic, cardiovascular, immunological, and neuromuscular consequences of physical activity/exercise are addressed from micro-and macro perspectives. The course aim to enable students to develop ability to independently evaluate and judge scientific research results obtained in the discipline also regarding aspects of societal, ethical, and gender equality.

Following successful completion of the course, the student should be able to:

Knowledge and understanding

- physiologically be able to understand and describe the body's adaptation to physical activity/exercise and the effects on musculoskeletal diseases and associated comorbidity, also in relation to exercise recommendations.
- explain relevant evaluation methods of physical activity and exercise aimed to affect health at both individual- and group level

Skills and ability

- use literature databases to seek and, following critical review, select relevant research results within the subject exercise as medicine
- discuss and provide arguments based on different perspectives on research within the subject exercise as medicine

Judgement and approach

- judge and evaluate the scientific evidence regarding the effects of physical activity/exercise in musculoskeletal diseases and associated comorbidity also about societal aspects
- discuss, respond to questions, and respectfully pursue a scientific oral and written discussion at seminars and examinations within the subject of exercise as medicine
- reflect on the link between physical activity/exercise, health, and disease in relation to gender equality and the equal value of all humans

Primary Contents

The course is mainly theoretical. Practical cases are discussed and practical situations on campus may occur. The course will illustrate how the lack of physical activity/exercise can contribute or lead to ill health e.g., musculoskeletal diseases and associated comorbidity, and how physical activity/exercise can act as health promotion and disease prevention. Furthermore, it deals with relevant methods of evaluating physical activity/exercise in these diseases. The course is based on studies and discussions of the most recent research on the relevant subject: physical activity and exercise as medicine.

Teaching Formats

The teaching primarily consists of seminars, lectures, and projects. The students are mainly expected to independently assimilate the required reading including research studies in the subject. Some of the teaching may take place via information- and communication technology. The language of instruction is in English.

Examination

The overall grades of Fail, Pass or Pass with distinction will be awarded for the course.

The examination consists of both written and oral examinations, of which written exam and seminar activity are assessed individually. To achieve the grade "Pass with Distinction" in the course you must have 80% on the total of the written examination, and "Pass" in the written/oral presentation and "Pass" for seminars.

Name of the test		Grading
Written Examination	4 credits	U/G/VG
Written and Oral Presentation of Project Work	3,5 credits	U/G

If there are special reasons, the examiner may make exceptions from the specified examination format and allow a

student to be examined in another way. Special reasons can e.g. be a decision on learning support.

For elite sports students according to Riktlinjer för kombinationen studier och elitidrott vid Högskolan i Halmstad, DNR: L 2018/177, the examiner has the right to decide on an adapted examination component or let the student complete the examination in an alternative way.

Course Evaluation

Course evaluation is part of the course. This evaluation should offer guidance in the future development and planning of the course. Course evaluations should be documented and made available to the students.

Course Literature and Other Study Resources

Swain, D. P., Brawner, C. A., & American College of Sports Medicine. *ACSM's resource manual for guidelines for exercise testing and prescription*. Wolters Kluwer Health|Lippincott Williams & Wilkins, 2014 (latest edition)

WHO. WHO guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization (WHO). Electronic resource. Downloaded from
Hämtad från <https://www.who.int/publications/i/item/9789240014886>

Reference literature

Bouchard, C., Blair, S. N., & Haskell, W. L. *Physical activity and health*. Human Kinetics, 2012 (latest edition)

Moore, G., Durstine, J. L., Painter, P., & American College of Sports Medicine. *ACSM's Exercise Management for Persons With Chronic Diseases and Disabilities*, 4E. Human Kinetics, 2016

Yrkesföreningen för fysisk aktivitet. (2017): *Fysisk aktivitet i sjukdomsprevention och sjukdomsbehandling* Electronic resource.
www.fyss.se

WHO. (2018). *Global action plan on physical activity 2018-2030: more active people for a healthier world*. [Elektronisk resurs]. Geneva: World Health Organization (WHO). Electronic resource. Downloaded from
<https://apps.who.int/iris/bitstream/handle/10665/272722/9789241514187-eng.pdf>.

Research articles related to the subject.