SYLLABUS

Motor control and learning within physiotherapy 7.5 credits S7035H

Motorisk kontroll och inlärning inom fysioterapi

Course syllabus admitted: Spring 2019 Sp 3 - Autumn 2019 Sp 2

DECISION DATE
2018-10-31

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LULEÅ TEKNISKA UNIVERSITET

Motor control and learning within physiotherapy 7.5 credits S7035H

Motorisk kontroll och inlärning inom fysioterapi

Second cycle, S7035H

Education level	Grade scale	Subject	Subject group (SCB)
Second cycle	U G VG	Fysioterapi	Therapy, Rehabilitation and Dietary Treatment

Main field of study

Physiotherapy

Entry requirements

Bachelor in physical therapy

Selection

The selection is based on 30-285 credits

Examiner

Peter Michaelson

Course Aim

After completion of their course, on the basis of science and evidence, students must:

Have basic knowledge of theories and methods in motor control and learning in the areas of health promotion, prevention and treatment in physiotherapy, and be able to implement these skills in clinical activities.

Knowledge and understanding

- Be able to describe and explain the basic sensory and motor systems and the central nervous system's strategies for human motor control.
- Be able to explain the differences in human motor control that may occur with different states of ill-health and ageing, and describe and explain the possible physiological mechanisms behind these differences.
- Be able to account for different objective measurement methods for examining motor control functions and specify the areas of use and limitations of different methods.
- Be able to explain subjective methods of examining motor control functions, and be able to specify the areas of use and limitations of these methods.
- Be able to account for different phases of motor learning and methods to improve motor learning in prevention and rehabilitation.

Skills and abilities

- Be able to argue for the selection of methods to examine and train motor skills based on theories of motor control and learning within physiotherapy.
- Be able to explain how methods of examining and training motor skills based on theories of motor control and learning can be implemented within clinical physiotherapy.

Valuation abilities and approach

- Be able to make an assessment of the value of the knowledge given by the course regarding current theories and practical methods within motor control and learning for application within physiotherapy.
- Be able to take a standpoint on possible development needs in the area.

Contents

Theories of motor control and learning in healthy people as well as in different states of ill-health and ageing.

Theories of physiological mechanisms that may explain deviations in motor control.

Methodologies for investigating and training motor control.

Realization

Each course occasion´s language and form is stated and appear on the course page on Luleå University of Technology's website.

The implementation of the course assumes that students actively search for knowledge and can solve problems by means of an exploratory and critically reflective working method. This means that students take full responsibility for their studies by actively contributing to achieving the goals of the course through planning both contents and time.

The course will be implemented through:

- Lectures and reading of relevant literature on motor control and learning
- Lab Activity in Human Health and Performance Lab - Movement Science at LTU (distance education).
- Report that describes a specific patient case or a specific person who is not the patient, but where the focus is on the examination and training of motor skills, with justification and references from relevant literature in the area of motor control and learning.
- Seminar in which students orally present their written report and discuss their work with an opponent and other course participants, and take the role of opponent for another student's work.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided.

All the goals are assessed through a written report and oral presentation of the report, including a discussion and opposition of another student's report.

Remarks

This course is given for second-cycle studies. Study guidance is available in the course room in Canvas

Literature. Valid from Autumn 2016 Sp 1

- Shumway-Cook, Anne, and Marjorie H. Woollacott. Motor control: translating research into clinical practice. Lippincott Williams & Wilkins, 2011.
- Schmidt, Richard A., and Tim Lee. Motor control and learning: a behavioural emphasis. Human kinetics, 2011.
- Scientific articles will be added

Course offered by

Department of Health Sciences

Modules

Code	Description	Grade scale	Cr	Status	From period	Title
0001	Written report and seminar	U G VG *	7.5	Mandatory	A16	

Last revised

by 2018-10-31

Syllabus established

by Prefekt vid Institutionen för hälsovetenskap 2016-02-12