



## KURSPLAN

# Orthotic Management and Biomechanics I, 15 högskolepoäng

## *Orthotic Management and Biomechanics I, 15 credits*

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<b>Kurskod:</b>	H01K19	<b>Utbildningsnivå:</b>	Grundnivå
<b>Fastställd av:</b>	Utbildningsrådet 2018-05-09	<b>Utbildningsområde:</b>	Tekniska området
<b>Gäller fr.o.m.:</b>	2019-08-26	<b>Ämnesgrupp:</b>	MT2
<b>Version:</b>	1	<b>Fördjupning:</b>	G1F
<b>Diarienummer:</b>	Department of Rehabilitation	<b>Huvudområde:</b>	Ortopedteknik

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### Lärandemål

Upon completion of the course the students should have the ability to:

#### Kunskap och förståelse

- show familiarity with evidence and research within the area of ankle foot orthotics
- explain different treatment options
- explain common manufacturing methods in orthotics
- explain biomechanical principles related to ankle foot orthotics
- explain three-dimensional gait analysis systems and their use within the subject area.

#### Färdighet och förmåga

- use biomechanical methods in analysing and evaluating lower limb orthotic interventions
- describe and evaluate orthotic devices from a biomechanical perspective
- collect and interpret instrumented gait analysis data
- perform biomechanical calculations
- select and provide appropriate intervention with regards to the user
- discuss interventions and results according to existing legislation, quality registries and guidelines
- show familiarity with frequently used materials and equipment necessary in the production of orthotic devices according to regulations of occupational safety, health and environmental sustainability
- critically evaluate and act upon the relevance of current research and proven experience
- use appropriate outcome measures to evaluate orthotic interventions.

#### Värderingsförmåga och förhållningssätt

- demonstrate empathy towards users and colleagues
- demonstrate an understanding for other health professions and their role in orthotic interventions
- critically evaluate one's own performance.

### Innehåll

- ankle foot orthotics (AFO), concepts and prescription of orthotic interventions
- current research and evidence within the subject area

- biomechanical aspects/effects when using AFO
- instrumented gait analys
- dynamic biomechanical calculations

### Undervisningsformer

The course is conducted through lectures, group work, seminars and laboratory sessions including patient meetings.

Undervisningen bedrivs på engelska.

### Förkunskapskrav

General entry requirements and completion of the courses Anatomy and physiology, basic course, 7.5 credits, Mechanics related to prosthetics and orthotics, 7.5 credits, Applied materials technology, 7.5 credits and Prosthetic management and biomechanics of the lower limb I, 15 credits or the equivalent.

### Examination och betyg

Kursen bedöms med betygen A, B, C, D, E, FX eller F.

The examination will be based upon one individual written examination, one group seminar and performance in patient sessions.

A university lecturer serves as examiner for the course.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Individual written examination	9 hp	A/B/C/D/E/FX/F
Group seminar	3 hp	U/G
Interaction with clients	3 hp	U/G

### Övrigt

#### Attendance

Attendance is compulsory in laboratory sessions and seminars.

#### Temporary interruption of a course

The School of Health and Welfare may suspend a student's participation in clinical training or other practical activities during the course if a student demonstrates gross unfitness/incompetence when applying skills. A student whose work-based training or other practical activities have been canceled due to gross inadequacy/incompetence may not continue study before the course director or examiner has verified and approved that the student has the knowledge and skills required. In connection with a decision on suspension, the decision will specify the grounds on which the suspension is based. After the decision, an individual plan will be established for the student where knowledge and skills gaps are specified, the degree of support the student is entitled to, and the terms and date(s) for examination(s).

### Kurslitteratur