



## COURSE SYLLABUS

# Prosthetic Management and Biomechanics of the Lower Limb II, 7.5 credits

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högskolepoäng*

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<b>Course Code:</b> H2PK10	<b>Education Cycle:</b> First-cycle level
<b>Confirmed by:</b> Utbildningsrådet May 9, 2018	<b>Disciplinary domain:</b> Medicine
<b>Valid From:</b> Jan 20, 2020	<b>Subject group:</b> MT2
<b>Version:</b> 1	<b>Specialised in:</b> G1F
<b>Reg number:</b> Department of Rehabilitation	<b>Main field of study:</b> Prosthetics and Orthotics

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### Intended Learning Outcomes (ILO)

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

#### Knowledge and understanding

- discuss best available evidence in relation to prosthetic management for individuals who have undergone a knee disarticulation, transfemoral amputation or hip disarticulation
- explain relevant treatment strategies and methods related to knee disarticulations, transfemoral and hip disarticulation
- compare and contrast common methods for obtaining a model which facilitates manufacturing of a prosthetic device
- describe common products, treatment interventions and manufacturing methods used in lower limb prosthetic management
- describe biomechanical principles relevant to the subject area
- discuss relevant laws, regulations and quality registries related to provision of prosthetic and orthotic services.

#### Skills and abilities

- access correct information from a client, subjective and objective, and develop an appropriate management plan
- determine and document the desired function of a prosthetic device
- use evidence-based and client-relevant assessment methods, outcome measures and other clinical tools
- consider both subjective and objective information when providing/fitting and evaluating a prosthetic or orthotic device
- manufacture prosthetic devices, using equipment and frequently used materials, in a way that follows the suppliers' recommendations and is in accordance with occupational health and safety guidelines.

#### Judgement and approach

- demonstrate a professional approach towards users and colleagues

- critically evaluate one's own contribution/performance.

### Contents

- prostheses for knee disarticulations, transfemoral amputations and hip disarticulations
- initial gait and mobility training for individuals using lower-limb prostheses
- current research and evidence within the subject area
- applied biomechanics for knee disarticulations, transfemoral amputations and hip disarticulations

### Type of instruction

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

The teaching is conducted in English.

### Prerequisites

General entry requirements and completion of the course Orthotic management and biomechanics I, 15 credits (or the equivalent).

### Examination and grades

The course is graded A, B, C, D, E, FX or F.

The course examination will be based upon one individual lab report, one group seminar and interaction with patients.

A university lecturer serves as examiner for the course.

Registration of examination:

Name of the Test	Value	Grading
Lab report	5.5 credits	A/B/C/D/E/FX/F
Seminar	1 credit	U/G
Interaction with patients	1 credit	U/G

### Other information

#### Attendance requirements

During the course attendance is compulsory during 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).

**Course literature**

Lusardi, M., Jorge, M., & Nielsen, C. (2013). *Orthotics and Prosthetics in Rehabilitation*. St.Louis: Saunders Elsevier.

McRae, R. (2010). *Clinical Orthopaedic Examination*. Edinburgh: Churchill Livingstone.

Krajbich JI, Pinzur MS, LTC Potter BK & Stevens PM. (Eds.). (2016). *Atlas of Amputations and Limb Deficiencies: Surgical, Prosthetic and Rehabilitation Principles*. Rosemont, Illinois: American Academy of Orthopaedic Surgeons.

The most recent editions of the course literature should be used.

Additional relevant journal articles will be used.