COURSE SYLLABUS

Biomechanics, 15 credits

Biomekanik, 15 högskolepoäng

Course Code:	HBMK14	**Education Cycle:**	First-cycle level
Confirmed by:	Utbildningsrådet May 12, 2014	**Disciplinary domain:**	Medicine
Revised by:	Director of Education Oct 24, 2016	**Subject group:**	MT2
Valid From:	Oct 24, 2016	**Specialised in:**	G1F
Version:	3	**Main field of study:**	Prosthetics and Orthotics
Reg number:	2016/4022 (313) Avdelningen för rehabilitering/Department of Rehabilitation		

Intended Learning Outcomes (ILO)

Upon completion of the course the student should have the:

Knowledge and understanding
in order to

- explain movement in the human body from a biomechanical perspective
- explain how internal and external forces affect the human body
- explain pathologies in the locomotor system from a biomechanical perspective.

Skills and abilities
in order to

- use biomechanical methods in analysing and evaluating orthotic and prosthetic interventions
- describe and evaluate orthotic and prosthetic devices from a biomechanical perspective
- analyse normal and pathological gait
- perform biomechanical calculations.

Contents

Part 1, Biomechanics of the Locomotor System, 6 credits

- normal gait biomechanics
- pathological gait biomechanics

Part 2, Biomechanical Calculations, 3 credits

- biomechanical calculations of movement

Part 3, Orthotic and Prosthetic Biomechanics, 6 credits

- orthotic biomechanics
- prosthetic biomechanics

Type of instruction

This course is presented in the form of lectures, group work, seminars and laboratory sessions.

Prerequisites

Examination and grades

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

Part 1, Biomechanics of the Locomotor System - one written group assignment, one group seminar and one individual written exam.

Part 2, Biomechanical Calculations - one individual written exam.

Part 3, Orthotic and Prosthetic Biomechanics - one individual written exam.

A university lecturer serves as the course examiner.

Registration of examination:

Name of the Test	Value	Grading
Biomechanics of the Locomotor System, seminar	2 credits	U/G
Biomechanics of the Locomotor System, written exam	4 credits	A/B/C/D/E/FX/F
Biomechanical Calculations	3 credits	A/B/C/D/E/FX/F
Orthotic and Prosthetic Biomechanics	6 credits	A/B/C/D/E/FX/F

Other information

During the course attendance is compulsory during laboratory sessions and seminars.

Course literature

Richards, J. (2008). *Biomechanics in clinic and research*. Edinburgh: Elsevier.

Student may select one of the following texts;

Perry, J. (2010). *Gait Analysis: Normal and Pathological Function*. Thorofare, USA: Slack.

Whittle, M. (2007). *Gait analysis: An introduction*. Edinburgh: Elsevier.

Additional current journal artickles.

The latest edition of the course literature shold be used.