

COURSE SYLLABUS

Orthotic Management and Biomechanics II, 7.5 credits

Orthotic Management and Biomechanics II, 7,5 högskolepoäng

Course Code:	HOMN13	Education Cycle:	First-cycle level
Confirmed:	Jan 21, 2026	Disciplinary domain:	Medicine
Valid From:	Aug 24, 2026	Subject group:	Medical Technologies
		Specialised in:	G2F First cycle, has at least 60 credits in first-cycle course/s as entry requirements
		Main field of study:	Prosthetics and Orthotics

Intended Learning Outcomes (ILO)

On completion of the course the student will be able to:

Knowledge and Understanding

- explain the biomechanical properties of the trunk and neck related to orthotic interventions
- compare the mechanical properties of various orthotic components and devices
- compare different orthotic management options for lower limb, trunk and neck
- explain how a client centered approach is used in developing individual goals.

Skills and Abilities

- apply a client centered approach throughout the course
- justify the choice of orthotic interventions using mechanical and biomechanical principles
- generate client management decisions based upon best available evidence
- perform independent assessments of a client and develop a relevant prescription and management plan
- design and manufacture an orthotic device in accordance with the prescription and management plan
- select and use appropriate outcome measures to evaluate interventions regarding function, quality and safety
- summarize and document clinical processes in a client's simulated medical record in accordance with regulations.

Judgement and Approach

- critically evaluate one's own performance throughout the course
- demonstrate professionalism in contact with clients and peers
- distinguish when a client benefits from interprofessional teams and what other health professionals can contribute to the management plan
- reflect on an intervention considering ethical, personal, social, and societal factors.

Content

- orthotic treatment for lower limb including knee and hip (KAFO, HpO, HKO, HKAFO)*
- orthotic treatment for pelvis, trunk and neck (SIO, LSO, TLSO, CO, CTO, CTLSO)*
- seating treatment and devices for adults
- external devices for soft tissues of thorax and pelvis
- biomechanics of the pelvis, trunk and neck
- client centered care and application of ICF

*Abbreviations of orthoses according to ISO 8549-3.

Type of Instruction

The course is implemented through a combination of client-centered practical sessions, case-based teaching, workshops and lectures.

Language of instruction is English.

Entry Requirements

General entry requirements and passed courses in semester 1, 2, and 3, and taken courses in semester 4 from the Prosthetics and Orthotics Bachelor Programme, or equivalent.

Examination and Grades

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

The course examination will be based upon an individual written examination and performance in practical examinations.

Practical examination elements include workshops and laboratory sessions which will only be provided once per group of students during the course, due to the complexity and one-off nature, and required sequence of this content.

Registration of examination:

Name of the Test	Value	Grading
Written examination	5.5 credits	A/B/C/D/E/FX/F
Practical examination	2 credits	G/U

Other Information

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 cancelled 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

Please note that the course literature may be revised up to eight weeks before the start of the course.

Chui, K.C., Yen, S.C., Lusardi, M.M., & Jorge, M. (Eds). (2020). *Orthotics & prosthetics in rehabilitation* (4th. ed.). Elsevier Saunders.

Webster, J., & Murphy, D. (Eds). (2019). *Atlas of orthoses and assistive devices* (5th. ed.). Elsevier.

Fisk, J.R., Lonstein, J.E., & Malas, B.S. (2017). *The Atlas of Spinal Orthotics. Exceed Worldwide*.

McRae, R. (2010). *Clinical orthopaedic examination* (6th. ed.). Churchill Livingstone/Elsevier.

Additional relevant journal articles will be used.