JÖNKÖPING UNIVERSITY
School of Health and Welfare

PROGRAMME SYLLABUS
Preliminary, not confirmed

Prosthetics and Orthotics, BSc, 180 credits

Ortopedingenjörsprogrammet, 180 högskolepoäng

Programme Code:	HGPO8	Programmestart:	Autumn 2028
Confirmed:		Education Cycle:	First-cycle level

Title of Qualification

Degree of Bachelor of Science in Prosthetics and Orthotics
Degree of Bachelor of Science with a major in Prosthetics and Orthotics

Ortopedingenjörsexamen
Filosofie kandidatexamen med huvudområdet ortopedteknik

Programme Overview

Scope

The programme of studies comprises 180 credits and leads to a Degree of Bachelor of Science in Prosthetics and Orthotics and a Degree of Bachelor of Science with a major in Prosthetics and Orthotics. The objectives for the degree are described in the Higher Education Ordinance's System of Qualification (Annex 2, The Higher Education Ordinance SFS 1993:100 with later revisions).

The programme of studies consists of a number of courses. Each course has its own established course syllabus with stated admission requirements. The study programme consists of compulsory courses corresponding to 172.5 credits and the remaining 7.5 credits can be obtained via an elective course. The main area of prosthetics and orthotics accounts for 131.5 credits.

A full academic year of 40 weeks corresponds to 60 credits, whereby an average of 1.5 credits corresponds to one week of studies of at least 40 hours.

Content and organisation

The programme begins with basic courses within the main subject area of prosthetics and orthotics, as well as courses in the fields of medicine, science and behavioural science. As the programme progresses, the emphasis on the main subject area increases so that, by the end of the programme, this is the sole focus area. The courses within the main subject area of prosthetics and orthotics are organised so as to represent a logical progression. Within the programme, emphasis is placed on the courses in medicine, science and behavioural science serving to support the main subject area of prosthetics and orthotics.

The student can make use of the elective course in order to orient their studies towards a subject that is of particular interest. The choice of course can be made from within the range of courses offered by the School of Health and Welfare, provided that the student meets the specific admission requirements. Due to resource limitations, students are not guaranteed a place on a particular elective course but must compete with other applicants, in accordance with the selection rules of the course syllabus. The student can also choose courses offered by other universities and colleges, both nationally and internationally. All elective courses must correspond to the objectives of the study programme. All elective courses must be approved by the Programme Manager.

The main subject area of prosthetics and orthotics includes clinical placement studies within a department working with prosthetics and orthotics. For placements, the student has access to study locations within the Nordic region mainly. The purpose of the clinical placement studies is that the student shall be able to integrate theory with practice. The clinical placement studies also enable the student to develop skills in the solving of different sorts of practical problems, as well as to develop the capacity for empathy with consideration to an ethical and professional approach regarding individuals and their loved ones. The student shall also develop an understanding and respect for the skills of other occupational groups.

Forms of work
The study programme is conducted with a problem-oriented approach with a focus on the student's own learning. The forms of work are adapted to the nature of the course and the degree of specialisation, and may consist of literature studies, lectures, seminars and assignments conducted either individually or in groups. Students work in laboratories in order to practise working with situations that resemble those that will be encountered in their future occupations. The programme is taught in English.

Internationalisation
The School of Health and Welfare works actively to create an international environment for study and research, which could result in exchanges for students, teachers, and researchers. The idea of internationalisation is that the student gains awareness of their role and responsibility as a professional working within prosthetics and orthotics in a global perspective. This can be achieved by means of exchange programmes for studies abroad but also by meetings with foreign lecturers and exchange students.

The prosthetics and orthotics programme has, via the School of Health and Welfare, agreements with universities and colleges in other countries. For students who apply to study courses at other universities and colleges, it is necessary that the chosen courses comply with the framework of the study programme's objectives. This is determined by the Programme Manager.

Teaching and learning philosophy
The School of Health and Welfare's teaching and learning philosophy allows the individual to freely pursue knowledge and take responsibility for their own learning and personal development. The school aims to equip the individual with the tools needed to contribute to the development of our changing society.

According to the teaching and learning philosophy:
- the learning environment encourages students to actively pursue knowledge and take responsibility for their own learning
- learning processes and modes of assessment contribute to the development of critical thinking and problem-solving skills and promote in-depth learning and understanding
- learning processes promote the development of a professional attitude in interactions with care seekers/patients/clients/users and other professions
- a scholarly approach is an integral part of learning
- clinical placements allow students to observe, analyse, reflect, and gain professional experience and skills.

In practice, the philosophy means that the programmes at the School of Health and Welfare use teaching and learning methods that facilitate the students' learning. Courses must be evaluated on a regular basis, and the results of the evaluations must be considered when preparing programme and course syllabi and deciding on teaching and learning methods and modes of assessment. The students should take part in this work. The school's management is responsible for regularly reviewing the teaching and learning philosophy.

The main field of study of prosthetics and orthotics

Definition of the main field of study
The main field of study of prosthetics and orthotics focuses upon gaining knowledge and understanding related to assistive technologies, which are designed to replace or support lost or impaired function in persons with musculoskeletal and/or neurological impairments.

The Prosthetics and Orthotics field is multidisciplinary and requires knowledge from medicine, behavioral science, mechanics and material science. The main field is grounded in a comprehensive understanding of human body functions and structures and in particular the mechanical consequences of applying an external device to the body.

The main field of study of prosthetics and orthotics requires knowledge about; pathological conditions affecting musculoskeletal and neurological systems; the biomechanics of normal and pathological human movement; mechanical interactions between the human body and externally applied devices; materials technology for device design and fabrication. Knowledge is required in both qualitative and quantitative methods.

Within the field of study, theoretical and practical skills are developed for evidence-based decision making related to biomechanical functions of the body, prescription, manufacture, provision and evaluation of prosthetic and orthotic devices. A biopsychosocial perspective is required, recognising that prosthetic and orthotic management not only affects biological structures but also psychosocial aspects of health and wellbeing.

The progression of the main field of study
With regard to the main field of study of prosthetics and orthotics, the study programme is organised in such a way as to enable the successive broadening and deepening of knowledge as part of the student's skills and competence development.

The main field begins with an overview of central concepts and theories, and provides both a foundation of knowledge and a scientific approach for in-depth studies. In addition, the student shall acquire knowledge in the identification of different models of health and discuss these with regard to theories and general strategies in order to commence the development of a critical approach to knowledge.

This is then followed by courses covering specific methods that provide guidelines for the provision of prostheses/orthoses and give support for theoretical arguments concerning problems related to prosthetics, orthotics. The programme then progresses to enable the student to be able to integrate knowledge from different subject areas. Information shall be organised and categorised so as to meaningfully address problems, and possible links and/or relationships shall be described.

The courses studied in the latter stages of the programme shall enable the student to acquire more in-depth theoretical knowledge in order to be able to resolve different problems that may arise in the workplace. The student shall be able to independently critically scrutinise and compare different theories and models and generate new ideas. In addition, the student shall demonstrate the capacity for creative thinking and a more in-depth scientific approach to evidence based knowledge.

Objectives

General objectives
According to the Higher Education Act (SFS 1992:1434 with later revisions), first-cycle courses and study programmes shall develop:
- the ability of students to make independent and critical assessments,
- the ability of students to identify, formulate and solve problems autonomously,
and
- the preparedness of students to deal with changes in working life.
In addition to knowledge and skills in their field of study, students shall develop the ability to:
- gather and interpret information at a scholarly level,
- stay abreast of the development of knowledge, and
- communicate their knowledge to others, including those who lack specialist knowledge in the field.

Outcomes for a Degree of Bachelor of Science in Prosthetics and Orthotics [Ortopedingenjörsexamen]
Student who has completed the educational program for a Degree of Bachelor of Science in Prosthetics and Orthotics shall, in accordance with the System of Qualifications (Appendix 2, Higher Education Ordinance SFS 1993:100 with later revisions) demonstrate the knowledge and skills required for registration as a Prosthetist and Orthotist, within the following areas of expertise:

Knowledge and understanding
- demonstrate knowledge of the disciplinary foundation of the field and awareness of current research and development work as well as the links between research and proven, experience and the significance of these links for professional practice,
- demonstrate knowledge of relevant methods in the field, and
- demonstrate knowledge of the relevant statutory provisions.

Skills and abilities
- demonstrate the ability to undertake prosthetic and orthotic interventions autonomously and in cooperation with the patient and also function as a technical specialist in the entire field of habilitation and rehabilitation,
- demonstrate the ability to participate in preventive measures as well to initiate methodological improvements and assure the quality of equipment, working methods and products,
- demonstrate the ability to inform and instruct different audiences,
- demonstrate the ability to present and discuss in speech and writing interventions and treatment outcomes with those concerned, and to document them in accordance with the relevant statutory provisions,
- demonstrate the capacity for teamwork and collaboration with other professional categories, and
- demonstrate the ability to review, assess and use relevant information critically, and to discuss new data, phenomena and issues with various audiences and so contribute to the development of the profession and professional practice.

Judgement and approach
- demonstrate self-awareness and the capacity for empathy,
- demonstrate the ability to make assessments using a holistic approach to individuals informed by the relevant disciplinary, social and ethical aspects and taking particular account of human rights,
- demonstrate the ability to adopt a professional approach to clients or patients and those close to them, and
- demonstrate the ability to identify the need for further knowledge, and undertake ongoing development of his or her skills.

Independent project (thesis)
A requirement for the award of a Degree of Bachelor of Science in Prosthetics and Orthotics is completion by the student of an independent project (degree project) for at least 15 credits.

Programme-specific learning outcomes
In addition to the learning outcomes for a Degree of Bachelor of Science in Prosthetics and Orthotics according to the Higher Education Ordinance, the School of Health and Welfare has its own local learning outcomes for the programme, including that the student shall:
- demonstrate ability for independent clinical decision making and use a client centred approach to interventions spanning all ages,
- demonstrate ability to see the main subject area of prosthetics and orthotics from a cultural and international perspective,
- demonstrate ability for an in-depth scientific attitude in both theoretical as well as clinical applications.

General learning outcomes for a Degree of Bachelor
Student who has completed the study program leading to a Degree of Bachelor must, according to the Degree Ordinance (Appendix 2, Higher Education Ordinance SFS 1993:100 with later revisions), demonstrate such knowledge and ability as is required for general exams regarding the Bachelor's degree in order to:

Knowledge and understanding
- demonstrate knowledge and understanding in the main field of study, including knowledge of the disciplinary foundation of the field, knowledge of applicable methodologies in the field, specialised study in some aspect of the field as well as awareness of current research issues.

Competence and skills
- demonstrate the ability to search for, gather, evaluate and critically interpret the relevant information for a formulated problem and also discuss phenomena, issues and situations critically,
- demonstrate the ability to identify, formulate and solve problems autonomously and to complete tasks within predetermined time frames,
- demonstrate the ability to present and discuss information, problems and solutions in speech and writing and in dialogue with different audiences, and
- demonstrate the skills required to work autonomously in the main field of study.

Judgement and approach
- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues,
- demonstrate insight into the role of knowledge in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the need for further knowledge and ongoing learning.

Independent project (degree project)
A requirement for the award of a Degree of Bachelor is completion by the student of an independent project (degree project) for at least 15 credits in the main field of study.

Contents

Courses within the programme
All courses within the programme are available at undergraduate level.

Elective courses specified in one of the tables below are given at the School of Health and Welfare. One elective course of 7.5hp with content relevant for the programme can be accounted for.

Courses

Course changes can occur, as long as they do not substantially affect the programme’s content and learning goals.

Entry Requirements

General entry requirements and high school diploma and specific demand on mathematics, physics, and chemistry. Proof of English proficiency is required.

Continuation Requirements

The study programme includes the handling of thermoset plastics and chemicals which are regulated by the provisions of the Swedish Work Environment Authority, AFS 2023:15. For this reason, the School of Health and Welfare organises compulsory lung function testing by a specialist clinic, as part of an employment suitability assessment, which takes place at the start of the programme of studies and at later points. An approved employment suitability assessment is a requirement for the continuation of studies.

The programme incorporates certain thresholds (detailed below) which must be completed in order to progress to the next level of study.

In order to start studies in semester 2, it is required that the courses in semester 1 have been taken.

To be allowed to start studies in semester 3, it is required that the student has received a passing grade in all the included courses in semester 1 and that the remaining courses in semester 2 have been taken.

To be allowed to start studies in semester 4, it is required that the student has received a passing grade in all the included courses in semesters 1 and 2 and that the remaining courses in semester 3 have been taken.

To be allowed to start studies in semester 5, it is required that the student has received a passing grade in all included courses in semesters 1, 2 and 3, and that the remaining courses in semester 4 are taken.

To be allowed to start studies in semester 6, it is required that the student has received a passing grade in all included courses in semesters 1, 2, 3 and 4 and that the remaining courses in semester 5 are taken.

Verification of enrolment status will take place on 1 July before semesters 3 and 5.
Verification of enrolment status takes place January 1 for semesters 4 and 6.

The course syllabus for each course may contain specific admission requirements.

Qualification Requirements

To be awarded the Degree of Bachelor of Science in Prosthetics and Orthotics, the student must have passed all course required in the programme syllaby to gain 180 credits.

To be awarded the Degree of Bachelor of Science with a major in Prosthetics and Orthotics, the student must have passed all course required in the programme syllaby to gain 180 credits, of which at least 90 credits were awarded for a successive deepening within the main subject area of prosthetics and orthotics.

For both degrees, the student must also – within the framework of the course requirements – have completed an independent thesis of at least 15 credits within the main subject area of prosthetics and orthotics (Appendix 2, Higher Education Ordinance SFS 1993:100 with later revisions).

Degree certificate

The degree certificate will be issued after formal application from the student after completion of education, provided that the examination results are registered in the study documentation system.

Apply for a Swedish license to practice

This degree certificate, for the Degree of Bachelor of Science in Prosthetics and Orthotics, constitute a qualifying document for application of a license as Ortopedingenjör by the Swedish National Board of Health and Welfare.

Other Information

Grade

In accordance with Jönköping University's regulations, the course syllabus shall specify which grades are used. Grades shall be determined by one of the teachers specifically appointed by the university (the examiner). For course assessment, the School of Health and Welfare uses the grading scales pass/fail, pass

with distinction/pass/fail and A/B/C/D/E/FX/F. Which grading scale used for which course is shown in the current syllabus.

Teaching and examination
For each course in the education there is a special syllabus which is a legally binding document. The teaching and examination forms for the courses given within the program are shown in the syllabus. More detailed regulations and information about examination and grading can be found in the Regulations and guidelines for first, second and third cycle education at Jönköping University in the respective syllabus and respective learning platform.

Equal Opportunities at Jönköping University
As an education provider, Jönköping University wants to offer an inclusive study environment where all students are treated in an objective and professional manner, where everyone is given equal opportunities. Jönköping University accepts under no circumstances that discrimination, harassment, sexual harassment, and offensive differential treatment occur.

Disciplinary and Expulsion Committee at Jönköping University
Students are obliged to follow the regulations governing the activities at Jönköping University.
The Disciplinary and Expulsion Committee at Jönköping University can decide on disciplinary measures.

Credit Transfer
A student that has passed component parts of a university programme at another Swedish or foreign university, or who has acquired the equivalent knowledge and skills in another way, can - following evaluation – receive credits for this within the framework of their studies at the School of Health and Welfare. The application for credit is applied for by the student on a special form according to the instructions on the form. The application must be received no later than five weeks before the start of the course in order to be processed in good time before the start of the course. For students who are new to Jönköping University and who want to take credit for courses close to the start of the course, the application for this must be made as soon as possible after registration.

Approved leave from studies
A study leave can only be applied for and granted from educational programs, not from courses. A study leave can only be granted after the student has completed at least one course with a passing grade, otherwise the student is directed to apply to the program again. A study leave is requested by the student on a special form and can only be granted due to illness, parental leave, military service or another special reason. A student who has been granted a study leave must notify the study counsellor of re-entry no later than 15 October before the spring semester and 15 April before the fall semester.

Withdrawal from studies
The student is recommended to contact the study counsellor before interrupting studies. Cancellation of studies from a program or course is entered by the student according to the instructions.

Exemption
When a student does not meet established eligibility requirements before the start of the semester and/or course, exemption is only granted in cases where Jönköping University has caused the student to be unable to complete their studies according to the programme syllabus.

Clinical placement
When deciding on clinical placement, the requirements of the specific facility will apply, which means, among other things, that infection control regulations must be followed. Furthermore, it may mean requirements for, for example, a health declaration, health certificate, vaccinations and extracts from the criminal record, which may entail costs for the student. Studies at clinical placement follow workhours and schedules at the facility and may include evenings, Saturdays, Sundays and holidays.
The School of Health and Welfare may interrupt a student's participation in clinical studies or other practical activities during an ongoing course if a student shows gross unsuitability/incompetence when applying one’s skills. A student whose on-the-job training or other practical activity has been interrupted due to gross unsuitability/unskillfulness may not participate in the course again before the course supervisor or examiner has checked and approved that the student has the necessary knowledge and skills. In connection with a decision on suspension, the decision must state the grounds on which the suspension is based. After the decision, an individual plan must also be determined for the student, which must state what knowledge and skill gaps exist, what support the student can count on, how the control will take place, when the first control must take place and when any new controls may take place.

Interruptions at clinical placement or other clinical/practical activities due to gross incompetence count as a failed opportunity. A student who is judged to have failed three clinical placements in the same course must

interrupt his studies in the relevant education. A student who has failed three times at clinical placement must be offered an interview with a study counsellor.