

Degree of Master of Science in Engineering (Civilingenjörsexamen)

Scope

A degree of Master of Science in Engineering is obtained after the student has completed course requirements of 300 higher education credits.

Objectives

For a degree of Master of Science in Engineering, students must demonstrate the knowledge and skills required for them to work independently as a graduate engineer.

Knowledge and understanding

For a degree of Master of Science in Engineering students must

- demonstrate knowledge of the scientific basis and proven experience of their chosen area of engineering, together with insight into current research and development work; and
- demonstrate both broad knowledge in their chosen area of engineering, including knowledge of mathematics and natural sciences, and substantially deeper knowledge in certain parts of the field.

Skills and abilities

For a degree of Master of Science in Engineering students must

- demonstrate an ability, from a holistic perspective, to critically, independently and creatively identify, formulate and deal with complex issues, and to participate in research and development work so as to contribute to the development of knowledge;
- demonstrate an ability to create, analyse and critically evaluate different technical solutions;
- demonstrate an ability to plan and, using appropriate methods, carry out advanced tasks within specified parameters;
- demonstrate an ability to integrate knowledge critically and systematically and to model, simulate, predict and evaluate events even on the basis of limited information;
- demonstrate an ability to develop and design products, processes and systems taking into account people's situations and needs and society's objectives for economically, socially and ecologically sustainable development;
- demonstrate an ability to engage in teamwork and cooperation in groups of varying composition; and
- demonstrate an ability to clearly present and discuss their conclusions and the knowledge and arguments behind them, in dialogue with different groups, orally and in writing, in national and international contexts.

Judgement and approach

For a degree of Master of Science in Engineering students must

- demonstrate an ability to make assessments, taking into account relevant scientific, social and ethical aspects, and demonstrate an awareness of ethical aspects of research and development work;
- demonstrate insight into the potential and limitations of technology, its role in society and people's responsibility for its use, including social and economic aspects, as well as environmental and work environment aspects; and
- demonstrate an ability to identify their need of further knowledge and to continuously upgrade their capabilities.

Independent project (degree project)

For a degree of Master of Science in Engineering students must have completed an independent project (degree project) worth at least 30 higher education credits, within the framework of the course requirements.

Other

For a degree of Master of Science in Engineering more precise requirements are also to apply, as determined by each higher education institution itself within the framework of the requirements in this qualification description.

Degree of Bachelor of Science in Engineering (Högskoleingenjörsexamen)

Scope

A degree of Bachelor of Science in Engineering is obtained after the student has completed course requirements of 180 higher education credits.

Objectives

For a degree of Bachelor of Science in Engineering, students must demonstrate the knowledge and skills required for them to work independently as a university-educated engineer.

Knowledge and understanding

For a degree of Bachelor of Science in Engineering students must

- demonstrate knowledge of the scientific basis of their chosen area of engineering and its proven experience, as well as an awareness of current research and development work; and
- demonstrate broad knowledge in their chosen area of engineering and relevant knowledge in mathematics and natural sciences.

Skills and abilities

For a degree of Bachelor of Science in Engineering students must

- demonstrate an ability, taking a holistic approach, to independently and creatively identify, formulate and manage issues, and to analyse and assess different technical solutions;
- demonstrate an ability to plan and, using appropriate methods, carry out tasks within specified parameters;
- demonstrate an ability to use knowledge critically and systematically and to model, simulate, predict and evaluate events on the basis of relevant information;
- demonstrate an ability to design and manage products, processes and systems taking into account people's situations and needs and society's objectives for economically, socially and ecologically sustainable development;
- demonstrate an ability to engage in teamwork and cooperation in groups of varying composition; and
- demonstrate an ability to present and discuss information, problems and solutions in dialogue with different groups, orally and in writing.

Judgement and approach

For a degree of Bachelor of Science in Engineering students must

- demonstrate an ability to make assessments, taking into account relevant scientific, social and ethical aspects;
- demonstrate insight into the potential and limitations of technology, its role in society and people's responsibility for its use, including social and economic aspects, as well as environmental and work environment aspects; and
- demonstrate an ability to identify their need of further knowledge and to continuously upgrade their capabilities.

Independent project (degree project)

For a degree of Bachelor of Science in Engineering students must have completed an independent project (degree project) worth at least 15 higher education credits, within the framework of the course requirements.

Other

For a degree of Bachelor of Science in Engineering more precise requirements are also to apply, as determined by each higher education institution itself within the framework of the requirements in this qualification description.

Degree of Master (Two Years) (Masterexamen)

Scope

A Degree of Master (Two Years) is obtained after the student has completed course requirements of 120 higher education credits with a certain area of specialisation determined by each higher education institution itself, including at least 60 higher education credits with in-depth studies in the main field of study. In addition, the student must hold a Degree of Bachelor, a Degree of Bachelor of Arts in..., a professional degree worth at least 180 higher education credits or an equivalent foreign qualification. Exceptions may be made to the requirement of a previous qualification for a student who has been admitted to the educational programme without having had basic eligibility in the form of a qualification. However, this does not apply if in the admissions process an exception has been made under Chapter 7, Section 28, second paragraph on the grounds that there has been insufficient time to issue a qualification certificate.

Objectives

Knowledge and understanding

For a Degree of Master (Two Years) students must

- demonstrate knowledge and understanding in their main field of study, including both broad knowledge in the field and substantially deeper knowledge of certain parts of the field, together with deeper insight into current research and development work; and
- demonstrate deeper methodological knowledge in their main field of study.

Skills and abilities

For a Degree of Master (Two Years) students must

- demonstrate an ability to critically and systematically integrate knowledge and to analyse, assess and deal with complex phenomena, issues and situations, even when limited information is available;
- demonstrate an ability to critically, independently and creatively identify and formulate issues and to plan and, using appropriate methods, carry out advanced tasks within specified time limits, so as to contribute to the development of knowledge and to evaluate this work;
- demonstrate an ability to clearly present and discuss their conclusions and the knowledge and arguments behind them, in dialogue with different groups, orally and in writing, in national and international contexts; and
- demonstrate the skill required to participate in research and development work or to work independently in other advanced contexts.

Judgement and approach

For a Degree of Master (Two Years) students must

- demonstrate an ability to make assessments in their main field of study, taking into account relevant scientific, social and ethical aspects, and demonstrate an awareness of ethical aspects of research and development work;
- demonstrate insight into the potential and limitations of science, its role in society and people's responsibility for how it is used; and
- demonstrate an ability to identify their need of further knowledge and to take responsibility for developing their knowledge.

Independent project (degree project)

For a Degree of Master (Two Years) students must have completed an independent project (degree project) worth at least 30 higher education credits in their main field of study, within the framework of the course requirements. The independent project may comprise less than 30 higher education credits, but not less than 15 higher education credits, if the student has already completed an independent project at the second level worth at least 15 higher education credits in their main field of study, or an equivalent project in a foreign educational programme.

Other

For a Degree of Master (Two Years) with a certain area of specialisation more precise requirements are also to apply, as determined by each higher education institution itself within the framework of the requirements in this qualification description.

Degree of Bachelor (*Kandidatexamen*)

Scope

A Degree of Bachelor is obtained after the student has completed course requirements of 180 higher education credits with a certain area of specialisation determined by each higher education institution itself, including at least 90 higher education credits with increasingly in-depth studies in the main field of study.

Objectives

Knowledge and understanding

For a Degree of Bachelor students must

- demonstrate knowledge and understanding in their main field of study, including knowledge of the scientific basis of the field, knowledge of applicable methods in the field, in-depth knowledge of some part of the field and a general sense of current research issues.

Skills and abilities

For a Degree of Bachelor students must

- demonstrate an ability to seek, gather and critically interpret information that is relevant to a problem and to critically discuss phenomena, issues and situations;
- demonstrate an ability to independently identify, formulate and solve problems and to perform tasks within specified time limits;
- demonstrate an ability to present and discuss information, problems and solutions in dialogue with different groups, orally and in writing; and
- demonstrate the skills required to work independently in the field that the education concerns.

Judgement and approach

For a Degree of Bachelor students must

- demonstrate an ability to make assessments in their main field of study, taking into account relevant scientific, social and ethical aspects;
- demonstrate insight into the role of knowledge in society and into people's responsibility for how knowledge is used; and
- demonstrate an ability to identify their need of further knowledge and to upgrade their capabilities.

Independent project (*degree project*)

For a Degree of Bachelor students must have completed an independent project (degree project) worth at least 15 higher education credits in their main field of study, within the framework of the course requirements.

Other

For a Degree of Bachelor with a certain area of specialisation more precise requirements are also to apply, as determined by each higher education institution itself within the framework of the requirements in this qualification description.

Degree of Master of Architecture (Arkitektexamen)

Scope

A degree of Master of Architecture is obtained after the student has completed course requirements of 300 higher education credits.

Objectives

For a degree of Master of Architecture, students must demonstrate the knowledge and skills required for them to work independently as an architect.

Knowledge and understanding

For a degree of Master of Architecture students must

- demonstrate knowledge of the scientific and artistic basis of the field and insight into relevant research and development work; and
- demonstrate both broad knowledge and understanding of the theory and history of architecture and deeper knowledge of architectural design, planning and development of built environments, together with the processes, methods and legislation that affect them.

Skills and abilities

For a degree of Master of Architecture students must

- demonstrate an ability to plan, design, preserve and renew built environments and buildings, from a holistic perspective and in complex contexts and taking account of different requirements, particularly society's objective of sustainable development;
- demonstrate an ability to critically, independently and creatively carry out and evaluate advanced and creative tasks within specified parameters in the field of architecture and planning, using appropriate architectural methods and syntheses;
- demonstrate an ability to apply knowledge of physical conditions and technical principles for erecting and modifying building structures;
- demonstrate an ability to engage in teamwork and cooperation in groups of varying composition;
- demonstrate an ability to clearly present and discuss their conclusions and the knowledge and arguments behind their conclusions in dialogue with different groups, using images and models, orally, in writing and in other ways, in both national and international contexts, so as to contribute to the profession and professional activities.

Judgement and approach

For a degree of Master of Architecture students must

- demonstrate an ability, from a holistic perspective, to factor in relevant scientific, social, aesthetic and ethical aspects in their assessments and considered choices, while taking account of the different needs and functional ability of society and of all people, as well as the interplay between people and the physical environment, including the work environment;
- demonstrate the potential to base their work on the requirement for long-term, functional solutions that are of high quality and good design; and
- demonstrate an ability to identify their need of further knowledge and to continuously upgrade their capabilities.

Independent project (degree project)

For a degree of Master of Architecture students must have completed an independent project (degree project) worth at least 30 higher education credits, within the framework of the course requirements.

Other

For a degree of Master of Architecture more precise requirements are also to apply, as determined by each higher education institution itself within the framework of the requirements in this qualification description.