



## Qualification descriptor for Degree of Bachelor of Science in Engineering, Mining and Geotechnical Engineering

*Högskoleingenjörsexamen, Berg- och anläggningsteknik*

**Degree regulations of 2007**

**First cycle**

### Established

Qualification descriptor approved on 2012-04-03 by Rektor vid Luleå tekniska universitet.

### Examination Objectives

#### Higher Education Act

English information is not available

#### Higher Education Ordinance

Annex 2

For a Bachelor of Science in Engineering the student shall have demonstrated the knowledge and skills required to work autonomously as a graduate engineer.

##### Knowledge and understanding

For a Bachelor of Science in Engineering the student shall have:

- \* demonstrated knowledge of the disciplinary foundation of the engineering field chosen and best practice in this field as well as awareness of current research and development work, and
- \* demonstrated broad knowledge in the engineering field chosen and relevant knowledge of mathematics and the natural sciences.

##### Competence and skills

For a Bachelor of Science in Engineering the student shall have:

- \* demonstrated the ability to identify, formulate and deal with issues autonomously and creatively and to analyse and evaluate technological solutions
- \* demonstrated the ability to plan and using appropriate methods undertake tasks within predetermined parameters
- \* demonstrated the ability to use knowledge critically and systematically to model, simulate, predict and evaluate series of events on the basis of relevant information
- \* demonstrated the ability to design and manage products, processes and systems while taking into account the circumstances and needs of individuals and the targets for economically, socially and ecologically sustainable development set by the community
- \* demonstrated the capacity for teamwork and collaboration with various constellations, and
- \* demonstrated the ability to present and discuss information, problems and solutions in speech and writing and in dialogue with different audiences.

##### Judgement and approach

For a Bachelor of Science in Engineering the student shall have:

- \* demonstrated the ability to make assessments informed by relevant disciplinary, social and ethical aspects
- \* demonstrated insight into the possibilities and limitations of technology, its role in society and the responsibility of the individual for how it is used, including social and economic aspects as well as environmental and occupational health and safety aspects
- \* demonstrated the ability to identify the need for further knowledge and undertake ongoing development of his or her skills.

### Detailed objectives for this degree

Upon completion of training, the student will be able to:

- apply knowledge of composition and mechanical characteristics of minerals, rocks and rock mass
- apply basic extraction, processing and production processes in mining, quarrying and construction industry
- demonstrate knowledge of production processes impact on the external and internal environment
- demonstrate ability to lead workinggroups to develop production and technological processes and using industrial steering documents and prescriptions
- demonstrate knowledge of the links between technology and human being in order to be able to describe the solutions that take into account both the customer's and the needs of the outside world.

## Credits

The programme requires 180 credits.

*The credits stated indicate the total for all courses leading to the degree. All courses are to have been completed and passed.*

## Special requirements

### Higher Education Ordinance and Luleå University of Technology

Independent project (degree project)

A requirement for the award of a Bachelor of Science in Engineering is completion by the student of an independent project (degree project) for at least 15 credits. (The Higher Education Ordinance, Annex 2 Qualifications ordinance)

Compulsory courses included in degrees the equivalent of 180 credits are at first cycle level. Courses at second cycle level equal to at most 15 credits may be included in a degree the equivalent of 180 credits. (Riktlinjer för Bolognaanpassning (Guidelines for Bologna adaptation), LTU Dnr 783-06)

*All course requirements for this degree are stated in the official syllabus.*

## Degree certificate

*A degree certificate will be issued upon application to students who fulfil the requirements for a degree.*

## Course requirements for this degree

Syllabus - [Bachelor Programme in Mining and Geotechnical Engineering](#) (Utbildningsplan - Högskoleingenjör Berg- och anläggningsteknik)