LUND UNIVERSITY

LTH
FACULTY OF ENGINEERING

Programme Syllabus

Master's Programme in Water Resources Engineering

- Faculty: Faculty of Engineering, LTH
- Programme code: TAWRE
- Credits: 120
- Admission level: Bachelor's degree
- Degree level: Second cycle
- Approved by: Programme Board W
- Approval date: 9 February 2026
- Validity: Academic year 2026/2027
- Entry into force: 9 February 2026

1 Aim and outcomes

1.1 Aim

This internationally oriented master's programme aims to develop the knowledge, skills and judgement of students in the field of water resources engineering. On completion of the programme, students will be able to work in the water resources sector and be able to deal with matters relating to water resources engineering in a professional manner.

The Master of Science in Water resources engineering aims to

- offer a broad programme of study which covers the most important aspects of water resources engineering,
- highlight the need to treat water resources in an integrated manner,
- give the students the opportunity to specialise in a chosen field of water resources engineering,

- offer access to current knowledge about and relevant methods of water resources engineering,
- impress on the students the importance of a scientific approach,
- take advantage of the opportunities available in a multinational group of students.

1.2 Outcomes for a Degree of Master of Science (120 credits)

(Higher Education Ordinance 1993:100)

Knowledge and understanding

For a Degree of Master of Science (120 credits) the student shall

- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills

For a Degree of Master of Science (120 credits) the student shall

- demonstrate the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information,
- demonstrate the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work,
- demonstrate the ability in speech and writing both nationally and internationally to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and

- demonstrate the skills required for participation in research and development work or autonomous employment in some other qualified capacity.

Judgement and approach

For a Degree of Master of Science (120 credits) the student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work,
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

1.3 Specific outcomes for a Degree of Master of Science (120 credits) in Water Resources Engineering

For a Degree of Master of Science (120 credits) in Water Resources Engineering students must demonstrate the knowledge and skills required for working independently with water resources engineering.

Knowledge and understanding

For a Degree of Master of Science (120 credits) students shall

- demonstrate knowledge and understanding in the field of water resources engineering, including both broad knowledge of the field and a considerable degree of specialised knowledge in certain areas of the field as well as insight into current research and development work; and
- demonstrate specialised methodological knowledge in the field of water resources engineering.

Competence and skills

For a Degree of Master of Science (120 credits) students shall

- demonstrate the ability to critically and systematically integrate knowledge of water resources engineering from several perspectives and to analyse, assess and deal with complex phenomena, issues and situations even with limited information,
- demonstrate the ability to identify and formulate issues critically, autonomously and creatively and to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge, as well as the ability to evaluate this work,
- demonstrate the ability in speech and writing to report clearly and discuss their conclusions and the knowledge and arguments on which they are based in dialogue with different audiences both nationally and internationally,
- demonstrate the skills required for participation in research and development work or autonomous employment in some other qualified capacity.

Judgement and approach

For a Degree of Master of Science (120 credits) students shall

- demonstrate the ability to make assessments in the field of water resources engineering informed by disciplinary, social and ethical aspects and also to demonstrate awareness of ethical aspects of research and development work,
- demonstrate insight into the possibilities and limitations of research on water resources engineering, its role in society and the responsibility of the individual for how it is used,
- demonstrate the ability to identify their need for further knowledge and take responsibility for their ongoing learning.

2 Programme structure

The programme consists of compulsory courses comprising 45 credits, elective courses comprising 45 credits and a degree project worth 30 credits.

2.1 Courses

The courses included in the programme are indicated in the timetable. All courses are taught in English. In addition to these courses, students are entitled to accreditation of 7.5 credits of courses in Swedish (organised by Lund University for exchange students).

2.2 Further studies

On completion of the second-cycle degree, students have basic eligibility for third-cycle studies.

3 Admission requirements

A Bachelor's degree in civil engineering, environmental engineering or equivalent. Completed courses in mathematics/calculus, hydraulics /fluid mechanics and geology, each of them corresponding to at least 4 credits/ECTS. English 6.

4 Degree

4.1 Degree requirements

For a Degree of Master of Science (120 credits) students must successfully complete courses comprising 120 credits, including a degree project worth 30 credits. At least 90 credits must be second-cycle credits and at least 60 credits of those must be in the main field of study, including the degree project.

4.2 Degree and degree certificate

When students have completed all the degree requirements, they are entitled to apply for a certificate for a Degree of Master of Science (120 credits). Main Field of Study: Water Resources Engineering.