

Master Programme in Fire Safety Technology

Programme code: TABRT

Scope: 120 credits

Cycle: Second

Approved by: Klas Ernald Borges

Validity: 2018/2019

Date of approval: 12 April 2018

In addition to the syllabus, general regulations and information for the Faculty of Engineering apply to this programme.

1 Aim and outcomes

1.1 Aim

The programme is an Erasmus+ Joint Programme carried out by Lund University, University of Edinburgh and Ghent University (www.imfse.ugent.be).

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 Further studies

Students who have achieved a second cycle exam (Master of Science) will have general entry requirements for third cycle educations.

2 Programme structure

The program includes 90 credits compulsory courses and a degree project (30 credits).

2.1 First semester - Ghent or Edinburgh

2.1.1 Ghent

Courses

Basics of Structural Engineering, 9 credits

Fire Dynamics, 6 credits

Thermodynamics, Heat and Mass Transfer, 6 credits

Optional courses (at least 9 credits):

FSE Based Firefighting, 3 credits

Modelling of Turbulence and Combustion, 3 credits

Turbomachines, 3 credits

Introduction to Entrepreneurship, 3 credits

2.1.2 Edinburgh

Courses

Fire Safety, Engineering and Society, 9 credits

Fire Safety Engineering, 6 credits

Fire Science and Fire Dynamics, 9 credits

Engineering Project Management, 6 credits

2.2 Second semester - Lund

The courses are listed in the timetable.

2.3 Third semester - Ghent or Edinburgh

2.3.1 Ghent

Courses

Explosions and Industrial Fire Safety, 6 credits

Passive Fire Protection, 6 credits

Active Fire Protection I: Detection and Suppression, 6 credits

Active Fire Protection II: Smoke and Heat Control, 3 credits

Fire Safety and Legislation, 3 credits

Performance-Based Design, 6 credits

2.3.2 Edinburgh

Courses

Finite Element Analysis for Solids, 6 credits

Structural Design for Fire, 6 credits

Fire Investigation and Failure Analysis, 9 credits

Fire Science Laboratory, 9 credits

2.4 Fourth semester

The last semester consists of the degree project (30 credits) conducted in Ghent, Edinburgh or Lund or at an associated university (University of Queensland Australia, ETH Zürich Switzerland, University of Maryland USA).

3 Specific admission requirements

Admission to the program is made by Ghent University. See www.imfse.ugent.be.

3.1 Admission requirements

To be eligible for the Master programme in Fire Safety Technology applicants are required to have Bachelor of Science in Engineering. Students must also have documented proficiency in English corresponding to at least English 6 in Swedish upper secondary school.

4 Degree

4.1 Degree requirements

For a Degree of Master of Science (120 credits) students must complete courses comprising 120 credits, including a degree project worth 30 credits. 75 credits must be second-cycle credits, including the degree project.

4.1.1 Degree project

The degree projects included in the programme are listed in the timetable.

4.2 Degree and degree certificate

When students have completed the degree requirements, they are entitled to apply for a degree of a Master of Science (120 credits). Main Field of Study: Fire Safety Technology.