

# INTERNATIONAL MASTER OF SCIENCE IN FIRE SAFETY ENGINEERING

PROGRAMME JOINTLY OFFERED BY GHENT UNIVERSITY, THE UNIVERSITY OF EDINBURGH, LUND UNIVERSITY, UNIVERSITAT POLITÈCNICA DE CATALUNYA  
• BARCELONATECH

120 ECTS CREDITS - LANGUAGE: ENGLISH

## WHAT

Fires happen all the time and all over the world. But fire is not a hazard that simply occurs and where we have to accept the consequences. We can engineer the built environment to limit the likelihood of catastrophic fires occurring. The shift from a prescriptive approach towards performance-based fire safety designs creates a growing demand for advanced expertise in the multidisciplinary field of fire safety engineering. Now, climate change and the global transition toward more sustainable ways of living are increasing fire risks, making fire safety engineering more essential than ever.

Fire safety engineering is the application of engineering principles, rules and expert judgement based on a scientific understanding of fire. Fire engineers study fire and its phenomena as well as its effects on the built environment and human behaviour, to identify and quantify the risks. By implementing the principles of performance-based design, they optimize fire protection measures to safeguard life, the environment, property, and cultural heritage.

Fire safety engineering students will learn:

- the nature and characteristics of fire and its spread
- how structures, materials and people behave in the event of a fire
- how to evaluate, quantify and mitigate fire risks
- how to design fire detection, ventilation and suppression systems
- how building design interacts with firefighting and rescue operations
- how to analyse fire incidents and which lessons to draw from them

Find out more about Fire Safety Engineering in our [FSE Q&A series](#).

## STRUCTURE

The two-year IMFSE programme consists of four terms of thirty credits each. Mandatory student mobility requires students to change their study location after each term, allowing them to benefit from the strengths and expertise of each partner university and possibly, one of our associated [partner university](#).

The first term, covering basic topics in fire safety engineering, is taught at Ghent University or the University of Edinburgh. All students spend their

second term at Lund University, with emphasis on enclosure fire dynamics, risk analysis and human behaviour. During the third term, the focus at Ghent University is on fire safety engineering in the built environment, while at Universitat Politècnica de Catalunya (UPC) the focus is on wildfires and industrial fire protection. The fourth term is devoted to the Master dissertation.

The Master dissertation is an essential part of the degree and is aimed at developing and strengthening the student's research skills. IMFSE students will be able to apply for a topic submitted by one of our partner universities, one of our associated partner universities or by an industry contributor. Students may also submit a topic of their own. The granted topic will determine the location of their fourth and final semester.

## LABOUR MARKET

A degree in Fire Safety Engineering offers excellent career prospects. Graduates are in strong demand and are usually quickly hired in professional roles with competitive salaries.

The masters can find a job as fire safety engineer:

- in fire protection consultancy companies;
- in design bureaus for structural stability and/or technical equipment of buildings;
- in architect bureaus;
- in fire prevention services of larger cities;
- as responsible person for fire prevention in industry;
- in prevention departments of fire brigades;
- in fire protection equipment industry;
- as fire experts in insurance companies;
- as fire experts in governmental agencies;
- in standard testing laboratories;
- in environmental impact assessment consultancies;
- in health and safety organisations;
- in research and education institutes.

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## TOELATINGSVOORWAARDEN VOOR HOUDERS VAN EEN VLAAMS DIPLOMA

### 1 Na onderzoek van de bekwaamheid van de student om de opleiding te volgen:

- Bachelor in de chemie
- Bachelor in de fysica
- Bachelor in de fysica en de sterrenkunde
- Bachelor in de industriële wetenschappen: chemie
- Een diploma van een bacheloropleiding in het academisch onderwijs, op voorwaarde dat dit verwant is met de andere vermelde diploma's
- Een diploma van een masteropleiding aansluitend op een bacheloropleiding, op voorwaarde dat dit verwant is met de andere vermelde diploma's
- Een diploma van een masteropleiding die volgt op een andere masteropleiding, op voorwaarde dat dit verwant is met de andere vermelde diploma's
- Een diploma van een opleiding 'Bachelor of Science in de ingenieurswetenschappen' (met inbegrip van 'architectuur')

and therefore differ from the required standard level for English taught study programmes as specified in the Ghent University Education and Examination Code.

You may find the most recent version of the language requirements on the University of Edinburgh website:  
<https://study.ed.ac.uk/postgraduate/applying/entry-requirements/english-language>

## ADMISSION REQUIREMENTS FOR INTERNATIONAL DEGREE STUDENTS

Information on admission requirements and the administrative procedure for admission to this Erasmus+ study programme, can be found on the following page: <https://imfse.be/>.  
Bachelors or Masters in: architecture, civil engineering, electrical engineering, electromechanical engineering, chemical engineering, engineering physics, materials science, urbanism and spatial planning.  
Other degrees on the basis of a study of individual skills (e.g. fire safety consultants, fire prevention officers, fire brigade officers, building designers, building services engineers, architectural practitioners).

## LANGUAGE REQUIREMENTS

Language requirements Dutch: no language requirements

Language requirements for this study programme follow those set out by the University of Edinburgh

## PRACTICAL INFORMATION

### Study programme

<studiekiezer.ugent.be/international-master-of-science-in-fire-safety-engineering-EMFISA-en/programma>

### Information sessions

#### Graduation Fair

<afstudeerbeurs.ugent.be/students/further-studies>

### Open Days

Each spring the graduation fair **EVOLV**, organised by the UGent Association, offers the opportunity to discover all possible options to continue studying or to start looking for a job (with more than 200 different companies).

For joining an online **Open Day for this programme**, be sure to keep an eye on our social media as each year we hold a Virtual Tour of the programme. If you missed it this year, you can find the recording on our IMFSE Youtube page.

09 March 2024 09u00 - 14u00 - doorlopend - Campus Ardoyen, Gebouw 126 (iGent), Tech Lane Ghent Science Park, 9052 Zwijnaarde

25 April 2024 17u00 - 19u00 - Campus Ufo, Ufo, Sint-Pietersnieuwstraat 33, Gent

### Enrolling institution

Ghent University, Lund University, Universitat Politècnica de Catalunya • BarcelonaTech, The University of Edinburgh

Information on enrolment at Ghent University.

### Application Deadline (for International degree students)

The Erasmus+ master's programmes have a specific application procedure.

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## **Tuition fee**

More information is to be found on: [www.ugent.be/tuitionfee](http://www.ugent.be/tuitionfee)

## **Contact**

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## **Contact (for international degree students)**

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