

POSTGRADUATE STUDIES IN

FIRE SAFETY ENGINEERING



GHENT
UNIVERSITY

POSTGRADUATE STUDIES IN FIRE SAFETY ENGINEERING

WHY

Fires happen all the time and all over the world. Climate change and the general move towards a more sustainable way of living are increasing fire risk. 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.** Fire Safety Engineering is more needed than ever before and Fire Safety Engineers help shape the world of today and tomorrow, contributing to long-term sustainability.

WHAT

Fire Safety Engineering (FSE) 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.

PROGRAM

The Postgraduate Studies in Fire Safety Engineering is a two-year, English-taught programme designed for students with an engineering background. As a part-time programme (30 credits per year), it offers professionals the opportunity to combine work and study. Courses are scheduled as much as possible on the same days, so course attendance can be scheduled efficiently. Participants can decide to spread the completion of the programme over more than two years as well.

The programme consists of 11 general courses, 9 credits of elective courses and a dissertation project:

GENERAL COURSES (36 credits)

- Fire Dynamics (6)
- Design for Structural Fire Resistance (3)
- Industrial Fire Protection and Explosions (3)
- Risk Management (3)
- Fire Safety and Legislation (3)
- Active Fire Protection I: Detection and Suppression (3)
- Interaction between People and Fire (3)
- Active Fire Protection II: Smoke and Heat Control (3)
- Passive Fire Protection (3)
- Performance-Based Design (6)

ELECTIVE COURSES (9 credits), including FSE Based Firefighting, and CFD for Fire Safety Engineering.

DISSERTATION PROJECT (15 credits)

COMPETENCES/LEARNING OUTCOMES

A fire safety engineer understands:

- ⇒ 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

TARGET AUDIENCE

The Postgraduate Studies in Fire Safety Engineering is intended for students and professionals with an engineering background. Successful completion of the programme provides graduates with the skills necessary to work as fire safety experts in consultancy companies, design and architecture firms, prevention services, insurance companies, governmental agencies, and more.

MORE INFO

To find out more about the programme, individual courses, the admission requirements, and much more, visit the Ghent University Study Guide:

<https://studiekiezer.ugent.be/2026/postgraduate-studies-in-fire-safety-engineering-en/informeerje>

CONTACT

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