M.S. in Fire Protection Engineering

Degree Type
Master of Science

A leader in fire science for more than 40 years, WPI offers one of the few fire protection engineering graduate programs in the field. Through our interdisciplinary program, you'll study advanced topics in fire protection and safety and gain the critical thinking skills needed to become a leader in research, policy, education, and beyond.

Pursue your master's in fire protection engineering degree online, part-time, or full-time. Every student benefits from the one-on-one mentorship and applied learning opportunities that are hallmarks of the WPI experience.

Curriculum

The program for a Master of Science in fire protection engineering is flexible and can be tailored to individual student career goals. The fire protection engineering master of science degree requires a total of 30 credits composed of:

- 9 credits of FPE Core Courses
- 3 credits of FPE Integration Courses
- 18 credits of FPE Elective Courses (can include 9 credit thesis)

Both a thesis and non-thesis option are offered. The master of science degree may be completed on a part-time basis in less than two years, depending on the number of courses taken each semester.

FPE Core Courses:

Total credits: 9

All MS students are required to take 9 credits of core classes:

Item #	Title	Credits
	Fire Protection Engineering (FPE), Core Courses	9
	Fire Protection Engineering (FPE) Integration Courses	3
	Fire Protection Engineering (FPE) Elective Courses	18

Tracks and Admission Requirements

Thesis-track Masters

A 9-credit thesis can replace 9 credits of elective course work. Currently, WPI's online graduate programs do not offer a thesis option, as theses cannot be completed online. If you wish to pursue a thesis on campus, it is the student's responsibility to find a FPE faculty research advisor willing to advise the project. Students applying to do the MS Thesis option are strongly encouraged to seek out an FPE faculty research advisor while applying or shortly after. Current non-thesis track MS students may elect to switch to the MS thesis track and, if they choose this option, are strongly recommended to find a faculty research advisor during their first year. Please note that depending on the project's subject and timeframe, there might not be a faculty member willing or able to advise.

Admission Requirements

Applicants for the master of science or certificate programs should have a B.S. in engineering, engineering technology or the physical sciences. Students with science degrees and graduates of some engineering, and engineering technology disciplines may be required to take selected undergraduate courses to round out their backgrounds. These undergraduate courses must be completed within the first year in the program and before taking courses for which they are prerequisites. Applicants should have already taken courses in heat transfer, fluid mechanics, thermodynamics, and calculus through differential equations with a grade of B or better or its equivalent from an accredited institution.

Applicants with no FPE work experience should submit a statement of purpose (1-2 pages) articulating their interest in the field.

Additional Thesis-track admission requirements

Applicants selecting the MS thesis track will not be admitted without a faculty member agreeing to be the research advisor.

Master's thesis-track applicants are encouraged to submit a statement of purpose (1-2 pages) describing their background, interests, academic intent, and the reasons the applicant feels they would benefit from the program and identify thesis topic areas and potential faculty research advisors.

Fire Protection Engineering (FPE), Core Courses

9

All MS students are required to take 9 credits of core classes:

Item #	Title	Credits
FP 521	Fire Dynamics I	3
FP 553	Fire Protection Systems	3
FP 570	Building Fire Safety I	3

Fire Protection Engineering (FPE) Integration Courses

3

All MS students must choose at least one integration course to satisfy the integration course requirement. Note: students may take a second integration course as an elective.

Choose from one of the following.

Item #	Title	Credits
FP 573	Industrial Fire Protection	3
FP 571	Performance-Based Design	3

Fire Protection Engineering (FPE) Elective Courses

18

The remaining 18 credits may be filled by the following graduate-level (500-level) FP elective courses in the list below. Note that FP 580 can be taken multiple times, but only on different topics. Students may take a second integration course (FP 571 or FP 573) as an elective. BS/MS students may count select some 4000-level courses (see details in FPE BS/MS section).

FP 585 is an Independent Study that can be taken for 1-9 credits.

FP 590 and FP 595 each require an FPE faculty research advisor. FP 590 requires thesis as degree requirement (see thesis section).

With your Faculty Advisor's approval you may take up to three courses, the equivalent of nine elective credits from other WPI graduate departments on campus or online.

Item #	Title	Credits
FP 554	Advanced Fire Suppression	3
FP 555	Detection, Alarm and Smoke Control	3
FP 572	Failure Analysis	3
FP 575	Explosion Protection	3
FP 571	Performance-Based Design	3
FP 573	Industrial Fire Protection	3
FP 580	Special Problems	3
FP 590	Thesis	9
FP 595	Independent Study	1-9