

FIRE PROTECTION ENGINEERING TECHNICIAN (FPN)

About the Program

Are you interested in pursuing a career in firefighting? This two-year diploma program will help you establish the fundamentals to support your career in firefighting or as a fire protection engineering technician. Your studies will include introduction to the fire service, firefighter fitness and building/fire code analysis. You will also gain hands-on experiential learning in the areas of technical rescue, wildland firefighting and fire alarm and suppression systems. This diploma provides you with a solid foundation of fire protection principles to fortify your firefighter career aspirations while helping to explore the wider fire protection industry. After the first semester, a separate fire protection engineering technician stream is available for those interested in pursuing the fire alarm and suppression system design and maintenance career options.

Graduates of this program have the option to transfer into the Firefighter, Pre-Service Education and Training (<https://www.senecapolytechnic.ca/programs/fulltime/FFP.html>) program. This two-year diploma obtained through this program is a preferred qualification for many firefighter applications in Ontario.

In providing a real-world experience, indoor and outdoor lab-based subjects will require the use of appropriate industry health and safety equipment and personal protective equipment (PPE).

This unique program allows you to focus on your desired firefighting or fire alarm technician career aspirations. Since 1972, we have continuously evolved to meet the needs of fire departments and other industry partners so that you are highly employable. With course topics, delivery methods, career opportunities and expert faculty as diverse as our student population, your opportunity for success begins at Seneca Polytechnic.

Computer Requirements

It is strongly recommended that you have a laptop before the first day of this program. It should include the following minimum technical specifications:

- Windows 10 Operating System
- Intel i7 or equivalent processor
- 16 GB of RAM (32 GB of RAM is recommended)
- 256 GB Solid State Hard Drive (SSD) (512 GB SSD is recommended)
- High-end graphics video card (consider a dedicated video card with at least 2 GB of video memory)
- 13-inch or larger screen
- Three USB 3.0 ports
- Wireless 802.11ac

Credential Awarded

Ontario College Diploma

Duration

4 Semesters (2 Years)

Starts

January, September

Program and Course Delivery

This program is offered in Seneca's hybrid delivery format with some courses available in Seneca's flexible delivery format. Some coursework is online and some must be completed in person. Students will need to come on campus to complete in-person learning requirements. For courses offered in the flexible delivery format, professors use innovative learning spaces and technology to teach students in a classroom or lab and broadcast in real time to students attending remotely. In flexible courses, students have the choice of coming on campus or learning online.

Skills

Throughout this program you will develop the following skills:

- Perform fundamental firefighter tasks including firefighter fitness, fire suppression techniques and special rescue.
- Confirm building and fire code compliance related to building construction and fire safety systems
- Analyze essential fire dynamics principles
- Perform fundamental fire investigation tasks to determine potential cause and origin
- Perform fundamental fire inspection tasks to determine life safety compliance
- Troubleshoot fire protection alarm and sprinkler systems
- Collaborate and work in a team

Your Career

When you graduate from this program, these are the types of career options you can explore:

Fire Service

- Firefighter (preferred qualification)
- Wildland firefighter
- Fire and life safety public educator

Fire Engineering Technician

- Fire alarm technician
- Fire alarm designer
- Fire alarm sales representative
- Fire safety plan designer
- Fire extinguisher technician

Affiliations/Associations

- Canadian Fire Alarm Association (CFAA)
- National Fire Protection Association (NFPA)
- Office of the Ontario Fire Marshall

Professional Certification

- NFPA 1072 Hazardous Materials Awareness & Operations (IFSAC and ProBoard)
- NFPA 1031 Fire Inspector Level I (IFSAC and ProBoard)
- NFPA 1035 Public Educator Level I (IFSAC and ProBoard)

- Canadian Fire Alarm Association (CFAA) recognition and course equivalencies
- BCIN Fire Protection (MMAH) (exam prep)

Program of Study

Course Code	Course Name	Weekly Hours
Semester 1		
ALG191	Fire Analytics I	6
COM101	Communicating Across Contexts	3
or COM111	Communicating Across Contexts (Enriched)	
FPF190	Fire Protection Fundamentals	3
FSS190	Fire Sprinkler Systems - Applied I	5
OBC190	Building Construction and The Effects of Fire	4
Semester 2		
FAS290	Electricity and Electronics for Fire Systems	6
FDY293	Fire Dynamics and Ignition Sources	3
OFC395	Ontario Fire Code - General	4
<i>Firefighting Specialization only</i>		
IFF290	Introduction to Firefighter Wellness and Fitness	4
IFS490	Introduction to the Fire Service	3
<i>Technician Specialization Only</i>		
CAD290	Computer Aided Design I	4
FSS290	Fire Sprinkler Systems - Applied II	5
Semester 3		
AFS390	Alternative Fire Suppression Systems	4
FAS390	Fire Alarm Systems - Design	5
OBC395	Ontario Building Code - Fire Protection I	3
<i>Firefighting Specialization only</i>		
ITR490	Introduction to Technical Rescue	4
WFS490	Wildland Fire Suppression	4
<i>Technician Specialization Only</i>		
CAD390	Computer-Aided Design II	3
FLS590	NFPA 1035 Level I - Fire and Life Safety Educator	3
Semester 4		
FFI693	Fundamentals of Fire Investigation	3
FSP490	Fire Safety Plans and Emergency Planning	2
HOM390	NFPA 1072 Operations - Hazardous Materials	4
TEC400	Technical Communications	3
plus: General Education Course (1)		3
<i>Firefighting Specialization only</i>		
CFI693	NFPA 1031 - Level I Fire Inspector	3
OFC690	Ontario Fire Code - FPPA Inspections, Legal and Courtroom Procedures	3
<i>Technician Specialization only</i>		

FAS490	Fire Alarm Systems - Troubleshooting	3
PRM693	Project Management	3

Program Learning Outcomes

This Seneca program has been validated by the Credential Validation Service as an Ontario College Credential as required by the Ministry of Colleges and Universities.

As a graduate, you will be prepared to reliably demonstrate the ability to:

- apply relevant fire protection codes and standards to perform typically required duties.
- communicate orally, and in basic reports, the results of fire safety inspections, fire alarm system installations and testing to a client or authority having jurisdiction.
- test and commission fire detection and suppression systems to verify system performance.
- determine the appropriate fire protection requirements by categorizing buildings by construction type and hazards to fire safety.
- verify conformance to codes and standards, applicable to fire protection, for all building types.
- interpret plans and designs to obtain required fire safety information for installation and inspection of alarm systems.
- troubleshoot issues with fire protection systems for the purpose of returning the system to working order.

Admission Requirements

- Ontario Secondary School Diploma (OSSD), or equivalent, or a mature applicant (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html>)
- English: Grade 12 C or U, or equivalent course
- Mathematics: Grade 12 C or U, or Grade 11 Functions (MCR3U), or equivalent course

Canadian citizens and permanent residents may satisfy the English and/or mathematics requirements for this program through successful Seneca pre-admission testing. (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/mature-applicants.html>)

Recommended upgrading for applicants who do not meet academic subject requirements (<https://www.senecapolytechnic.ca/registrar/canadian-applicants/admission-requirements/upgrading-options.html>).

International Student Information

International admissions requirements vary by program and in addition to English requirements (<https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/english-requirements.html>), programs may require credits in mathematics, biology, and chemistry at a level equivalent to Ontario's curriculum, or a postsecondary degree or diploma, equivalent to an Ontario university or college. Program-specific pre-requisite courses and credentials are listed with the admission requirements on each program page. To review the academic requirements please visit: Academic Requirements - Seneca, Toronto, Canada ([senecapolytechnic.ca](https://www.senecapolytechnic.ca)) (<https://www.senecapolytechnic.ca/international/apply/how-to-apply/admission-requirements/academic-requirements.html>).

Pathways

As a leader in academic pathways, we offer a range of options that will allow you to take your credential further in another Seneca program or a program at a partner institution.

To learn more about your eligibility, visit the Academic Pathways (<https://www.senecapolytechnic.ca/pathways.html>) web page.

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