

Fire Service Technology & Fire Service Certificate (FST & FSTC)

Fire Service Technology (FST)

The Fire Service Technology program at Cincinnati State prepares students for entry-level jobs in fire service as a firefighter/emergency medical technician (EMT).

This program meets National Fire Protection Association standards and objectives for Firefighter 1 and Firefighter 2. Graduates of the program earn an Associate of Applied Science degree.

For hands-on fire training class eligibility, students must:

- Successfully perform and complete the Fire Cadet Fitness Evaluation.
- Complete the State Application for Admission to a Fire Training Course. This application screens for age, criminal convictions, and substance abuse that may disqualify students from state certification. Documentation must be provided to the Ohio Department of Public Safety for questionable cases.
- Have the Physical Exam Form (for firefighters) completed by a qualified physician.
- Present copies of previous certifications held pertaining to firefighting and emergency medical services.

Graduates who complete the associate's degree may continue their education at the University of Cincinnati to earn a bachelor's degree.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission>) section of the College website.

Fire Service Certificate (FSTC)

The Fire Service Certificate program provides specific education, training, and skills needed to obtain employment at a fire department. The Emergency Medical Technician course and the Firefighter 1 and Firefighter 2 courses that are part of the certificate prepare students for the State of Ohio's Certification exams.

Successful completion of the state exams is required before certification cards are issued by the State of Ohio.

The Fire Service certificate program offers a fast track to employment. All credits earned while completing this certificate also can be applied to the Fire Service Technology associate's degree.

For more information, please contact the Health and Public Safety Division at (513) 569-1670.

To apply for this program at Cincinnati State, visit the Admissions (<http://www.cincinnati.edu/academics/admission>) section of the College website.

Fire Service Technology (FST)

Program Prerequisite: AFM 092 Introductory Algebra, AFL 085 Applications of College Reading and Writing, or appropriate placement test score.

		Lec	Lab	Credits
Semester 1				
FYE 1XX		1	0	1
First Year Experience Elective (B)				
FST 101	Fire Cadet Fundamentals (B)	1	2	2
FST 105	Firefighter Physical Preparedness (T)	1	2	2
EMS 110	Emergency Medical Technician Theory and Practice (T)	5	4	7
FST 136	Emergency Vehicle Operator (T)	0	2	1
Semester 2				
FST 131	Firefighter Professional 1 (B)	4	6	6
ENG 101	English Composition 1 (G)	3	0	3
FST 123	Principles of Emergency Services (B)	3	0	3
FST 120	Fire Behavior and Combustion (T)	2	0	2
Semester 3				
FST 129	Fire Prevention (T)	3	0	3
FST 132	Firefighter Professional 2 (T)	3	6	5
1XX Mathematics Elective (G)		2	2	3
10X English Composition Elective (G)		3	0	3
Semester 4				
FST 126	Fire Protection Systems (T)	2	0	2
FST 294	Internship 1: Fire Service Technology (T)	1	40	2
FST 228	Legal Aspects of the Emergency Services (T)	3	0	3
XXX XXX Social Science Elective (G)		3	0	3
XXX XXX EMS / FST Elective (T)		1	3	2
Semester 5				
FST 223	Principles of Fire and Emergency Services Safety and Survival (T)	2	0	2
FST 226	Building Construction for Fire Protection (T)	3	0	3
COMM 1XX Communication Elective (B)		3	0	3

PHI 110	Ethics (G)	3	0	3
Total Credits:		52	67	64

Electives

First Year Experience Elective

FYE 100	College Survival Skills	1
FYE 105	College Success Strategies	2
FYE 110	Community College Experience	3

Mathematics Elective

MAT 115	Pre-Statistics	3
MAT 120	Technical Mathematics	3
MAT 131	Statistics 1	3

English Composition Elective

ENG 102	English Composition 2: Contemporary Issues	3
ENG 103	English Composition 2: Writing about Literature	3
ENG 104	English Composition 2: Technical Communication	3
ENG 105	English Composition 2: Business Communication	3

Social Science Elective

PSY 110	Introduction to Psychology	3
SOC 105	Introduction to Sociology	3

EMS / FST Elective

EMS 120	Paramedic Anatomy and Physiology	3
FST 258	Rapid Assistance and Self-Rescue Operations	2

Communication Elective

COMM 105	Interpersonal Communication	3
COMM 110	Public Speaking	3

The letters G, B, and T (displayed after course titles or elective descriptions) identify types of courses required by the Ohio Department of Higher Education as part of an associate's degree curriculum.

G = General Education course in this curriculum

B = Basic Skills course in this curriculum

T = Technical course in this curriculum

Fire Service Certificate (FSTC)

Program Prerequisites: **AFL 085 Applications of College Reading and Writing** (minimum grade C) or appropriate placement test score.

Semester 1		Lec	Lab Credits	
FST 105	Firefighter Physical Preparedness	1	2	2
FST 101	Fire Cadet Fundamentals	1	2	2
FST 136	Emergency Vehicle Operator	0	2	1
EMS 110	Emergency Medical Technician Theory and Practice	5	4	7
Semester 2				
FST 131	Firefighter Professional 1	4	6	6
FST 123	Principles of Emergency Services	3	0	3
FST 120	Fire Behavior and Combustion	2	0	2
Semester 3				
FST 129	Fire Prevention	3	0	3

FST 132	Firefighter Professional 2	3	6	5
Total Credits:		22	22	31

Fire Safety (FST, FSTL)

- Perform and function as a Firefighter 2 certified by Ohio Department of Public Safety (ODPS) and nationally accredited by National Board on Fire Service Professional Qualifications (commonly known as The Pro-Boards)
- Perform and function as an Emergency Medical Technician (EMT) certified as an Ohio and National EMT
- Demonstrate the importance and value of functioning as a team member at emergency scenes
- Provide additional value to the community through non-emergency assistance involving life safety education, inspections, and support at community events
- Promote and practice safety at all fire department and community functions
- Display and promote a healthy lifestyle and environment

Faculty

Program Chair/Advisor

T. Ryan Mayfield, MS, NREMT-P
thomas.mayfield@cincinnatiastate.edu

Advisor

Phil Vossmeier, AAS FF 2, F1
philip.vossmeier@cincinnatiastate.edu

Courses

FST 101 Fire Cadet Fundamentals

2 Credits. 1 Lecture Hour. 2 Lab Hours.

A course on fundamental concepts and skills that apply to the fire cadet. Topics include: safety procedures and equipment, self-discipline, fire ground principles, emergency communication and systems, and evolving technologies and trends in firefighting. Prerequisites: Student must pass physical agility test
Instructor Consent Required

FST 103 Evolution of the Fire Service

2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on the growth of the fire service from its creation through the 21st century. Topics include: changes in suppression methods, building codes, and rescue techniques; administrative philosophies; and personnel behaviors. Prerequisites: None

FST 105 Firefighter Physical Preparedness

2 Credits. 1 Lecture Hour. 2 Lab Hours.

A course on preparing individuals for the rigors of firefighting, including balanced physical conditioning that incorporates all basic factors of fitness. Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores
Instructor Consent Required

FST 107 Home Safety**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on identifying common hazards that place individuals and families at risk for injury and/or crisis. Topics include: home, fire, and child safety; health hazards; severe weather safety; and driving and water safety.

Prerequisites: None

FST 108 Emotional Preparedness for Public Safety Professionals**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on dealing with emotions and stresses that result from caring for the sick, injured, and dying. Topics include: concepts and techniques from the fields of sociology, philosophy, religion, and health education.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 110 Portable Fire Extinguishers**1 Credit. 1 Lecture Hour. 0 Lab Hour.**

A course on fundamentals of fire and fire extinguishing. Topics include: elements that support a fire, and using equipment to efficiently extinguish Class A, B, and C type fires.

Prerequisites: None

FST 116 Fire Apparatus and Equipment Maintenance**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on operating, maintaining, and repairing internal combustion engines. Topics include: small gas power engines used in the fire service, daily inspections of fire apparatus and equipment, and pre- and post-run inspections of vehicles.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 120 Fire Behavior and Combustion**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on theories and fundamentals of how and why fires start and spread, and how fires are controlled. Topics include: the chemistry of fire, combustion and heat transfer, stages of fire growth, toxic gases and smoke, and extinguishing agents.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 121 Fire Investigation 1**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamentals of proper fire scene interpretations. Topics include: recognizing origin location and cause, preserving evidence and documentation, scene security, motives of the fire setter, and types of fire causes.

Prerequisites: None

FST 123 Principles of Emergency Services**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fire protection as an industry. Topics include: philosophy and history of fire services, fire departments as part of local government, protection systems, regulations and laws, and introductory fire ground strategy and tactics.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 124 Fire and Emergency Services Administration**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on organization and management of a fire department. Topics include: the relationship of government agencies to the fire service, fire and emergency services, and ethics and leadership from the perspective of the company officer.

Prerequisites: FST 123

FST 126 Fire Protection Systems**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on design and operation of fire alarm systems. Topics include: water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 129 Fire Prevention**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on fundamental concepts of fire prevention. Topics include: history, philosophy, organization, and operation of a fire prevention bureau; use and application of codes and standards; plan review; fire inspections; fire and life safety education; and fire investigation.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 130 Volunteer Firefighter**1 Credit. 0 Lecture Hour. 3 Lab Hours.**

A course on fundamentals for the volunteer firefighter, using the Ohio Department of Public Safety objectives for volunteer firefighter certification. Topics include: safety, fire behavior, personal protective equipment, ventilation, tools, ground ladders, water supply, and overhaul.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 131 Firefighter Professional 1**6 Credits. 4 Lecture Hours. 6 Lab Hours.**

A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: ladders, personal protection clothing, self-contained breathing apparatus (SCBA), fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete FST 131 and FST 132 and earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification.

Prerequisites: AFL 085 or appropriate placement test score, and FST 101 and FST 105 and instructor consent

Instructor Consent Required

FST 132 Firefighter Professional 2**5 Credits. 3 Lecture Hours. 6 Lab Hours.**

A continuation of FST 131, covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must earn a passing score on the state firefighter exam to obtain Ohio Firefighter II certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 131

Instructor Consent Required

FST 133 Firefighter 1 Transition**4 Credits. 3 Lecture Hours. 3 Lab Hours.**

A course for volunteer firefighters seeking the Firefighter 1 level, using the Ohio Department of Public Safety objectives for volunteer-to-Firefighter 1 certification. Topics include: safety, hoses and streams, fire extinguishers, ladders, ropes, ventilation, forcible entry, and live fire training.

Prerequisites: FST 130

FST 136 Emergency Vehicle Operator

1 Credit. 0 Lecture Hour. 2 Lab Hours.

A course on safe driving practices while responding in emergency vehicles. Topics include: techniques for safe operation, post-collision analysis, and unsafe practices during emergency response. Students must have a valid driver's license.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

Instructor Consent Required

FST 141 Firefighter 1

7 Credits. 4 Lecture Hours. 6 Lab Hours.

A course covering NFPA 1001 Firefighter 1 objectives. Topics include: ladders, personal protection clothing, SCBA, fire extinguishers, search and rescue, ropes and knots, and hoses and nozzles. Students must successfully complete a state test to obtain Ohio Firefighter certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 100

FST 142 Firefighter 2

4 Credits. 3 Lecture Hours. 3 Lab Hours.

A continuation of FST 141, covering NFPA 1001 Firefighter 2 objectives. Topics include: fire streams and foam, auto extrication, fire control, fire protection systems, and pre-incident surveys. Students must successfully complete a state test to obtain Ohio Firefighter certification. PROBOARD accreditation is available for interested students.

Prerequisites: FST 141

FST 145 Career Firefighter 1 & 2

11 Credits. 7 Lecture Hours. 12 Lab Hours.

A course covering NFPA 1001 Firefighter 1 and 2 objectives. Topics include ladders, personal protective clothing and equipment, fire extinguishers, search and rescue, fire streams, foam, fire control and auto extraction. PROBOARD accreditation is available for interested students. Students must pass the state test before Firefighter certification is awarded.

Prerequisites: FST 100

FST 153 Fire Service Technology Blueprint Reading

3 Credits. 3 Lecture Hours. 0 Lab Hour.

A course on reading computer-generated drawings used in fire services. Topics include: interpreting architectural and civil engineering symbols and abbreviations; and understanding civil, architectural, electrical, mechanical, and fire protection drawings.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 158 Fire Alarm Basics

2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on fundamentals of fire alarm systems. Topics include: system components, operation and application of systems, building codes, and regulatory standards.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 161 Fire Officer 1

4 Credits. 4 Lecture Hours. 0 Lab Hour.

A course on preparing for the role of company officer, using NFPA 1021 Fire Officers Professional Qualifications Level 1 objectives. Topics include: human resource management, community and government relations, inspections, investigations, emergency service delivery, and safety. This course is delivered in an online format.

Prerequisites: FST 142

FST 162 Fire Officer 2

4 Credits. 4 Lecture Hours. 0 Lab Hour.

A continuation of FST 161, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 2. This course is delivered in an online format.

Prerequisites: FST 161

FST 163 Fire Officer 3

4 Credits. 4 Lecture Hours. 0 Lab Hour.

A continuation of FST 162, using standards defined for NFPA 1021 Fire Officers Professional Qualifications Level 3. This course is delivered in an online format.

Prerequisites: FST 162

FST 164 Occupational Health and Safety for Emergency Services
2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on basic concepts of occupational health and safety related to emergency service organizations. Topics include: risk and hazard evaluation, and control procedures.

Prerequisites: AFL 085 and AFM 092, or appropriate placement test scores

FST 198 First Year Special Topics in Fire Service Technology

1-9 Credits. 0 Lecture Hour. 0 Lab Hour.

A course on selected topics related to Fire Service Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: None

FST 199 First Year Independent Project in Fire Service Technology

1-9 Credits. 0 Lecture Hour. 0 Lab Hour.

A project related to Fire Service Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Fire Service Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section

FST 210 Crew Resource Management

2 Credits. 2 Lecture Hours. 0 Lab Hour.

A course on effects of human error during fire ground operations, using concepts from commercial aviation that apply to fire services. Topics include: communication, teamwork, situational awareness, critical decision making, and decreasing injuries and deaths during firefighting. This course is delivered in an online format.

Prerequisites: FST 142 or FST 145

FST 218 Wildfire Behavior and Suppression

3 Credits. 2 Lecture Hours. 2 Lab Hours.

A course on knowledge and skills needed to extinguish wildfires. Topics include: factors affecting the start and spread of wildfires, and recognizing potentially hazardous situations.

Prerequisites: FST 100

FST 222 Fire Investigation 2

3 Credits. 3 Lecture Hours. 0 Lab Hour.

A continuation of FST 121. Topics include: rules and laws, fire scene analysis, fire behavior, evidence preservation, documentation, case preparation, and courtroom testimony.

Prerequisites: FST 121

FST 223 Principles of Fire and Emergency Services Safety and Survival**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on the history and basic principles of the national firefighter life safety initiatives, focusing on the need for cultural change throughout the emergency services.

Prerequisites: FST 142 or FST 145

FST 225 Fire Protection Hydraulics and Water Supply**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on understanding principles of water for fire protection, and understanding principles of hydraulics used to analyze and overcome challenges of applying sufficient water for fire suppression.

Prerequisites: FST 142

FST 226 Building Construction for Fire Protection**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on building construction in relation to firefighting and life safety. Topics include: elements of construction and design, building inspection factors, pre-planning fire operations, and safe operations during emergencies.

Prerequisites: FST 141

FST 228 Legal Aspects of the Emergency Services**3 Credits. 3 Lecture Hours. 0 Lab Hour.**

A course on legal issues related to emergency services. Topics include: the American legal system; recent court decisions, events, and statutes; Americans with Disabilities Act; Family Medical Leave Act; Fair Labor Standards Act; and HIPAA.

Prerequisites: FST 100

FST 229 Strategies and Tactics for Fire Suppression**2 Credits. 2 Lecture Hours. 0 Lab Hour.**

A course on principles of fire ground control using personnel, equipment, pre-incident planning, and extinguishing agents.

Prerequisites: FST 142

FST 236 Fire Apparatus Operator**3 Credits. 2 Lecture Hours. 2 Lab Hours.**

A course on theory and operation of engines and pumpers used in firefighting. Topics include: equipment operation; troubleshooting; and demonstration and practice of fire ground water flow scenarios.

Prerequisites: FST 142 or FST 145

FST 258 Rapid Assistance and Self-Rescue Operations**2 Credits. 1 Lecture Hour. 3 Lab Hours.**

A course on saving your own life or saving lives of other firefighters. Topics include: MAYDAY, fire ground safety, communications, self awareness, rapid entry team preparedness, and survival techniques.

Prerequisites: FST 132

FST 265 Fire Service Instructor**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on techniques for teaching adult learners knowledge and skills required for the Fire Services field, using NFPA 1041 Instructor 1 and 2 objectives. Topics include: domains of learning, learning outcomes and objectives, classroom preparedness, student safety, and legal obligations. Students must have five years experience as a firefighter.

Prerequisites: FST 142 and Instructor consent

Instructor Consent Required

FST 268 Fire Safety Inspector**3 Credits. 2 Lecture Hours. 3 Lab Hours.**

A course on fire safety inspection procedures and responsibilities, using NFPA 1031 objectives. Students who are members of an Ohio Fire Department may take the state exam for Fire Safety Inspector at the end of the course.

Prerequisites: FST 142

FST 294 Internship 1: Fire Service Technology**2 Credits. 1 Lecture Hour. 40 Lab Hours.**

Students seeking an associate's degree participate in an unpaid field learning experience related to their degree. Students must follow applicable policies and procedures to earn credit. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: FST 142 or FST 145 (minimum grade C for either)

Instructor Consent Required

FST 298 Second Year Special Topics in Fire Service Technology**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A course on selected topics related to Fire Service Technology, which gives students opportunities to study information not currently covered in other courses. Grades issued are A, B, C, D, or F.

Prerequisites: None

FST 299 Second Year Independent Projects in Fire Service Technology**1-9 Credits. 0 Lecture Hour. 0 Lab Hour.**

A project related to Fire Service Technology that is completed by one or more students to meet specific educational goals. Projects must have prior approval and supervision by Fire Service Technology faculty. Grades issued are Satisfactory or Unsatisfactory.

Prerequisites: Vary by section