

# EMERGENCY SERVICES - FIRE SCIENCE AND SAFETY

ECC's emergency services training programs are designed to teach the fundamentals of several emergency services disciplines.

Emergency services programs train firefighters, emergency dispatchers, and emergency medical technicians–basic and paramedic. These programs are designed to provide students with the entry level knowledge and skills to succeed in their chosen disciplines, including fire science and safety (FSS), emergency medical technician-basic (EMT-B), emergency medical technician-paramedic (EMT-P), and emergency dispatcher (PSC). Students acquire specialized knowledge and skills from current emergency services practitioners. Emergency services training programs also benefit veteran emergency services professionals needing to update their skills and education. All training received within ECC's emergency services training programs complies with local, state, and national certifying agencies; this enables graduates to obtain job-ready certifications.

## Entrance Requirements

None

## Program Requirements

FSS 215 students who plan to challenge the National Registry Emergency Medical Technician certification exam must meet all of the following criteria:

- Be currently registered with ECC.
- Meet all course prerequisites.
- Complete all course quizzes & exams, the midterm written & practical evaluations, and the final written & practical evaluations.
- Pass all midterm and final practical evaluations.
- Perform 25 hours of clinical experience, which includes hospital or alternate care facility and field internship experience.
- Complete the course with an average grade of at least 80 percent.
- Attain an average weighted average course exam score of 80 percent or higher.
- Submit all of the following deliverable materials before their indicated deadlines:
  - Background check
  - Drug test
  - One-step TB test
  - Flu shot
  - Hepatitis B vaccination within the past 10 years
  - Immunization records for Measles, Mumps, Rubella, and Varicella within 12 months prior to performing their clinical evaluations
  - CPR card (obtained during the course)
  - Three Clinical Evaluation Forms

- All practical skill sheets
- Zero EMT Code of Ethics violations

The Illinois Department of Public Health and the Joint Commission on Accreditation for Hospitals (JCAH) require drug tests, criminal background checks, and immunizations on students participating in direct patient care as part of their educational programs. Therefore, all FSS 215 students must pass drug tests, criminal background checks, and immunizations prior to starting their clinical evaluations.

FSS 215 students must pay for their drug tests, criminal background checks, and immunizations. Drug tests, criminal background checks, and immunizations are tracked by CastleBranch, an online company, and monitored by ECC staff. All records are confidential. Students must pass their drug tests, criminal background checks, and immunizations to perform their clinical evaluations. Students must perform their clinical evaluations to meet IDPH and JCAH standards. Please call 847-886-5395 to address any questions.

- Demonstrate a comprehensive understanding of fire service routine non-emergency activities and operations.
- Identify, analyze, and apply proactive fire prevention and comprehensive community risk reduction programs, in order to provide safe and cost effective fire protection.
- Identify and analyze various types of building construction for adverse effects by fire, appropriate suppression methodology, and risk to firefighters.
- Identify and apply reactive fire, hazardous materials, and emergency medical services scene operations in order to provide safe and cost effective emergency services.
- Identify and apply contemporary fire service tactics and strategy in a reactive manner which supports safe and cost effective incident mitigation.
- Analyze and apply contemporary leadership, management, and administrative practices in emergency services.
- Identify and apply a comprehensive knowledge of fire service hydraulics to solve water supply problems for fire protection.
- Analyze contemporary approaches to fire detection and protection systems.
- Analyze and apply a comprehensive knowledge of emergency medical services at the Emergency Medical Technician, Basic level.
- Analyze and respond to contemporary emergency services legal concerns.
- Demonstrate the ability to effectively communicate in written and oral forms consistent with the requirements of contemporary emergency services.
- Identify and apply contemporary emergency service instructional methodologies.
- Create an understanding of the National Fire Academy FESHE recognized fire training program.

## Fire Science & Safety - Associate of Applied Science

Course	Title	Credit Hours
<b>First Semester</b>		
FSS 101	Principles of Emergency Services	3
FSS 102	Fire Prevention	3
PSY 100	Intro to Psychology	3
ENG 101	English Composition I	3
Fire Science Elective		3
<b>Total</b>		<b>15</b>
<b>Second Semester</b>		
FSS 103	Bldg Const. for Fire Prevention	3
FSS 204	Fire Protection Systems	3
FSS 276	Fire Behavior & Combustion	3
ENG 102	English Composition II	3
<b>Required Math/Science Course</b>		<b>3</b>
<b>Total</b>		<b>15</b>
<b>Third Semester</b>		
FSS 201	Fire Fighting Strategy & Tactics	3
FSS 202	Hazardous Materials Chemistry	3
CMS 101	Fundamentals of Speech	3
Fire Science Elective		6
<b>Total</b>		<b>15</b>
<b>Fourth Semester</b>		
FSS 203	Protect. Hydraulics & Water Supply	3
FSS 214	Fire Service Instructor-Basic Level	3
<b>Required Liberal Education Course</b>		<b>3</b>
Fire Science Elective		6
<b>Total</b>		<b>15</b>
<b>Program Total</b>		<b>60</b>

### Fire Science Electives

Course	Title	Credits
FSS 105	Principles of Emerg. Serv. Admin. I	3
FSS 106	Principles of Emerg. Serv. Admin. II	3
FSS 215	Emergency Med Technician-Basic	8
FSS 110	Basic Operation Firefighter Module a	4
FSS 111	Basic Operation Firefighter Module B	4
FSS 112	Basic Operation Firefighter Module C	4
FSS 113	Vehicle Operator/Rescue Awareness	1
FSS 115	Emergency Medical Responder	3
FSS 220	Legal Aspects of Emergency Services	3
FSS 224	Fire Service Instructor - Level II	3
FSS 278	Emergency Services Safety & Health	3
FSS 281	Fire Safety & Survival Principles	3
FSS 283	Fire Investigation I	3
FSS 284	Fire Investigation II	3

## Fire Science & Safety - Vocational Specialist

Course	Title	Credit Hours
<b>First Semester</b>		
FSS 101	Principles of Emergency Services	3
FSS 204	Fire Protection Systems	3
FSS 202	Hazardous Materials Chemistry	3

FSS 215	Emergency Med Technician-Basic	8
<b>Total</b>		<b>17</b>

<b>Second Semester</b>		
FSS 102	Fire Prevention	3
FSS 103	Bldg Const. for Fire Prevention	3
FSS 214	Fire Service Instructor-Basic Level	3
FSS 201	Fire Fighting Strategy & Tactics	3
FSS 203	Protect. Hydraulics & Water Supply	3
<b>Total</b>		<b>15</b>
<b>Program Total</b>		<b>32</b>

## Fire Science - Basic Vocational Specialist

Course	Title	Credits
FSS 101	Principles of Emergency Services	3
FSS 103	Bldg Const. for Fire Prevention	3
FSS 204	Fire Protection Systems	3

**Total Credit Hours** **9**

## Fire Officer I - Basic Vocational Specialist

Course	Title	Credits
FSS 102	Fire Prevention	3
FSS 201	Fire Fighting Strategy & Tactics	3
FSS 105	Principles of Emerg. Serv. Admin. I	3
FSS 106	Principles of Emerg. Serv. Admin. II	3
FSS 214	Fire Service Instructor-Basic Level	3

**Total Credit Hours** **15**

## Basic Operations Firefighter - Basic Vocational Specialist

Course	Title	Credits
FSS 110	Basic Operation Firefighter Module a	4
FSS 111	Basic Operation Firefighter Module B	4
FSS 112	Basic Operation Firefighter Module C	4
FSS 113	Vehicle Operator/Rescue Awareness	1
FSS 202	Hazardous Materials Chemistry	3

**Total Credit Hours** **16**

## Emergency Medical Technician - Basic - Basic Vocational Specialist

Course	Title	Credits
FSS 215	Emergency Med Technician-Basic	8

**Total Credit Hours** **8**

## Fire Science and Safety Courses

All FSS courses numbered 100 and above may be applied to the major field and elective requirement for the Associate in Arts and Associate in Science degrees.

**FSS 101 Principles of Emergency Services (3) 3,0**

This course provides an overview to fire protection and emergency services; career opportunities in fire protection and related fields; culture and history of emergency services; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** None

**Semester(s) Offered:** Fall and Spring

**FSS 102 Fire Prevention (3) 3,0**

This course provides fundamental knowledge relative to the field of fire prevention. Topics include history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use and application of codes and standards, plans review, fire inspections, fire and safety education, and fire investigation.. (1.2) Proficiency Credit Available (2ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Prerequisite:None

**Semester(s) Offered:** Fall and Spring

**FSS 103 Bldg Const. for Fire Prevention (3) 3,0**

This course provides the components of building construction related to firefighter and life safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies. (1.2) Proficiency Credit Available (2 ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better FSS 101 or consent of instructor

**Semester(s) Offered:** Spring

**FSS 105 Principles of Emerg. Serv. Admin. I (3) 3,0**

This course introduces students to the organization and management of a fire and emergency services department and the relationship of governmental agencies to the fire service. Emphasis is placed on fire and emergency service ethics and leadership from the perspective of the company officer.(1.2) Proficiency Credit Available (2 ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 101 or consent of instructor.

**Semester(s) Offered:** Varies

**FSS 106 Principles of Emerg. Serv. Admin. II (3) 3,0**

One of two management courses required of eligible candidates pursuing Illinois certification as a Fire Officer I. Acquaints the student with the principles of communication and group dynamics as they relate to the company officer.(1.2) Proficiency Credit Available (2 ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Prerequisite:Grade of C or better in FSS 105 or consent of instructor

**Semester(s) Offered:** Varies

**FSS 110 Basic Operation Firefighter Module a (4) 3.5,1**

This course provides partial training toward Basic Operations Firefighter Certification by the Office of the State Fire Marshal. Topics discussed include orientation/organization, fire behavior, building construction, safety, communication, self-contained breathing apparatus (SCBA), extinguisher training, and ropes and knots. Additionally, this course provides an overview of the Courage to be Safe course and the National Incident Management System 100 and 700 courses. The Courage to be Safe course provides the student with an introduction to all sixteen Firefighter Life Safety Initiatives and assists the user in taking the first steps toward addressing these initiatives in their job and department. This course advocates for cultural change as an important way to reduce fire service Line of Duty Deaths and injuries. The National Incident Management System courses provide a basic understanding of the National Incident Management System and introduces the student to the Incident Command System. This Course is approved by the Office of the State Fire Marshall (OSFM) and completion of this course qualifies students for the State Fire Marshal Certification Test Module A. (1.2) Proficiency Credit Available (3 MTFREIS) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$778 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Admission into the Basic Operations Firefighter program or consent of program director

**Semester(s) Offered:** Fall and Spring

**FSS 111 Basic Operation Firefighter Module B (4) 3.5,1**

This course is the continuation of FSS 110. This course provides partial training toward Basic Operations Firefighter Certification by the Office of the State Fire Marshal. Topics discussed include ladders, hose and appliances, nozzles and fire streams, water supply, forcible entry, and ventilation. Additionally, this course provides the student with an overview of Cardio Pulmonary Resuscitation practices. This Course is approved by the Office of the State Fire Marshall (OSFM) and completion qualifies students for the State Fire Marshal Certification Test Module B. (1.2) Proficiency Credit Available (3 MTFREIS) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$778 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 110 or consent of program director

**Semester(s) Offered:** Fall and Spring

**FSS 112 Basic Operation Firefighter Module C (4) 3.5,1**

This course is a continuation of FSS 110 and FSS 111. This course provides partial training toward Basic Operations Firefighter Certification by the Office of the Illinois State Fire Marshal. Topics discussed include search and rescue, fire control, loss control, protecting evidence, fire detection and alarm systems, prevention and public education, wild land and ground cover firefighting, firefighter survival, and basic first aid practices. This Course is approved by the Office of the State Fire Marshall (OSFM) and completion of this course qualifies students for the State Fire Marshal Certification Test Module C. (1.2) Proficiency Credit Available (2 MLTRSEIF) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$778 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 110 and FSS 111 or consent of program director

**Semester(s) Offered:** Fall and Spring

**FSS 113 Vehicle Operator/Rescue Awareness (1) 1,0**

Technical Rescue Awareness is designed to give first due companies a basic awareness of requirements and hazards at technical rescue incidents. Training will meet standards of NFPA 1670. Professional qualifications require completion of the approved Technical Rescue Awareness course. Technical Rescue Awareness is designed as the introductory step in the acquisition of knowledge and skills required for first due company operations. Fire Service Vehicle Operator is designed to give fire service personnel the basic knowledge and skills to safely perform fire service vehicle operations as defined by NFPA 1451. Students must be employed by a fire department with appropriate sponsorship, insurance coverage, and an Illinois State Driver's License, Engaged in firefighting in an organized Illinois fire department as a fire protection person according to the Act, as attested to by the employing Fire Chief of the individual seeking certification. This Course is approved by the Office of the State Fire Marshall (OSFM) and completion qualifies students for the State Fire Marshal Certification Tests for Fire Service Vehicle Operator and Technical Rescue Awareness. (1.2) Proficiency Credit Available (2 RM) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$182 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Consent of program director

**Semester(s) Offered:** Fall and Spring

**FSS 115 Emergency Medical Responder (3) 3,0**

This course prepares students to provide emergency pre hospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of EMRs, anatomy and physiology, medical emergencies, trauma, and special considerations for working in the pre hospital setting. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** None

**Semester(s) Offered:** Fall, Spring and Summer

**FSS 201 Fire Fighting Strategy & Tactics (3) 3,0**

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. (1.2) Proficiency Credit Available (2 RIE) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Prerequisite: Grade of C or better in FSS 101 or consent of instructor

**Semester(s) Offered:** Fall and Spring



**FSS 202 Hazardous Materials Chemistry (3) 3,0**

This course provides basic chemistry relative to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. Special Note: Student needs to be sponsored by a Fire Department. (1.2) Proficiency Credit Available (2 ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$446 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Consent of program director.

**Semester(s) Offered:** Fall and Spring

**FSS 203 Protect. Hydraulics & Water Supply (3) 3,0**

This course provides a foundation of theoretical knowledge to understand the principles of using water in fire protection and to apply hydraulic principles to analyze and solve water supply problems. (1.2) Proficiency Credit Available (2 ERI) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 103 or consent of instructor

**Semester(s) Offered:** Fall and Spring

**FSS 204 Fire Protection Systems (3) 3,0**

A study of the required standards for water supplies: protection systems; automatic sprinklers and extinguishing systems including analysis of various automatic signaling and detection systems. (1.2) Proficiency Credit Available (3 LETSIR) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$421 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 101 or consent of instructor.

**Semester(s) Offered:** Fall and Spring

**FSS 214 Fire Service Instructor-Basic Level (3) 3,0**

This course is designed to meet the guidelines of the Illinois Fire Protection Personnel Standards and Education Commission to qualify fire service personnel to conduct training and education classes for others in the field. It is designed to teach the fire officer how to be more proficient in his or her work and how to use the resources that are available to him/her. Also how to utilize outlines, prepare classes, utilize tests, as well as participate in practice teaching where he/she can be evaluated. (1.2) Proficiency Credit Available (3 LETSIR) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$421 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 204 or consent of instructor.

**Semester(s) Offered:** Fall and Spring

**FSS 215 Emergency Med Technician-Basic (8) 7,3**

In this course, students develop patient assessment skills and emergency treatment procedures. Medical emergencies covered include cardiac, resuscitation, and treating existing medical conditions such as diabetes, epilepsy, and emergency childbirth. Attention is given to treating and transporting traumatically injured patients; the course also involves extensive practical application of all treatment modalities. Special Note: The Illinois Department of Public Health and the Joint Commission on Accreditation for Hospitals require all students to pass a drug test and a criminal background check prior to participating in direct patient care as part of their educational program. (1.2) Proficiency Credit Available (3 LETSIR) Pass/No Credit Not Available

**Fire Science (FSS) program**

All students taking FSS 215 are required to pass a drug test and a criminal background check. .

**In-District Tuition/Fees:** \$1181 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 115; or consent of program director.

**Semester(s) Offered:** Fall, Spring and Summer

**FSS 220 Legal Aspects of Emergency Services (3) 3,0**

This course addresses the federal, state, and local laws that regulate emergency services and reviews national standards, regulations, and consensus standards.. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$436 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 101 or consent of instructor

**Semester(s) Offered:** Fall and Spring

**FSS 224 Fire Service Instructor - Level II (3) 2,1**

This course includes instruction in curriculum planning and advanced teaching principles. The course includes all objectives identified by the Office of the State Fire Marshal for certification at the Fire Service Instructor II Level. Student must be engaged in firefighting and a member of an organized Illinois fire department or Fire Brigade. This Course is approved by the Office of the State Fire Marshall (OSFM) and completion qualifies students for the State Fire Marshal Certification Test for Fire Service Instructor II. (1.2) Proficiency Credit Available (2 LTRSEIM) Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$421 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 214

**Semester(s) Offered:** Fall and Spring

**FSS 276 Fire Behavior & Combustion (3) 3,0**

This course explores the theories and fundamentals of how and why fires start, spread, and are controlled. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Prerequisite:None

**Semester(s) Offered:** Fall and Spring

**FSS 278 Emergency Services Safety & Health (3) 3,0**

This course introduces the basic concepts of health and safety relative to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency service organizations. (1.2) Proficiency Credit Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** None

**Semester(s) Offered:** Fall and Spring

**FSS 281 Fire Safety & Survival Principles (3) 3,0**

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services. (1.2) Proficiency Credit Not Available Pass/No Credit Not Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** None

**Semester(s) Offered:** Fall and Spring

**FSS 283 Fire Investigation I (3) 3,0**

This course is intended to provide students with the fundamentals for proper fire scene interpretations including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 101, FSS 103, and FSS 276; or consent of instructor.

**Semester(s) Offered:** Fall and Spring

**FSS 284 Fire Investigation II (3) 3,0**

This course is intended to provide students with advanced technical knowledge on the rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation, and courtroom testimony. (1.2) Proficiency Credit Not Available Pass/No Credit Available.

**In-District Tuition/Fees:** \$396 (effective 2023/24 academic year)

**In-district tuition rates are subject to change based on Board approval.**

**Prerequisite:** Grade of C or better in FSS 283.

**Semester(s) Offered:** Fall and Spring