

# FIRE SCIENCE - ASSOCIATE IN APPLIED SCIENCE



## FIRE

The Fire Science program is for individuals who are interested in or currently serving in the fire service or related fields. Graduates work for municipal fire departments or obtain positions in the fields of industrial fire safety and security, fire protection engineering technology, fire insurance inspection, investigation underwriting and ambulance services.

A balanced combination of professional and general education courses equips students with the knowledge and skills needed in this increasingly technological field. Fire protection systems and codes, tactics and strategies, hydraulics and equipment, officership and administration, and hazardous materials are studied.

**Note:** Not all courses are offered every semester. See department chair or semester schedule of courses. Principles of Fire and Emergency Services Safety & Survival (FIRE 1010) and Fire Behavior and Combustion (FIRE 1060) are delivered to meet FESHE standards. However, these courses are not required as part of the degree program. Many courses require prerequisites, corequisites and/or testing. See course descriptions for details (<https://catalog.ccri.edu/course-descriptions/>).

## General Policies

See important general policies (<https://catalog.ccri.edu/programs-study/health-sciences/>) on the performance-based Health Sciences application process, academic progress, advanced standing, background check, CPR certification, health insurance, health records, reinstatement, transportation, and uniforms and equipment.

## Requirements for Acceptance into the Fire Science Program

1. Complete and submit a CCRI Application for Enrollment to General Studies.
2. Submit an official copy of high school or GED® transcript including the graduation date. If the applicant holds a baccalaureate degree from an accredited college or university, the high school transcript may be waived; a college transcript must indicate completion and degree awarded.
3. Provide proof of completed Tdap vaccine and titers.

## Program Learning Outcomes

Upon completion of this program, a student will be able to:

1. Describe the history and culture of the Fire Service as it pertains to all divisions and disciplines.
2. Discuss the scope, purpose and organizational structure of the fire service beginning at the recruit level to chief office.
3. Identify the primary responsibilities of personnel in the varied roles in the fire service.
4. Demonstrate understanding of fire size-up, heavy rescue management and various fire emergencies.
5. Discuss and explain fire behavior as it pertains to fire ignition, growth and travel.

6. Critique operations of a fire, discuss decision-making and consider fallout of poor decisions in fire science.
7. Review "after action reports" to determine areas needing correction/development on the fire ground.
8. Develop management, fire operations and manpower objectives as they apply to different fire scenarios and events.
9. Define the need for cultural change in the fire service.
10. Explain fire operations as it pertains to leadership and safety.
11. Identify and explain the 16 safety initiatives as identified in the FESHE Associate Core Curriculum.
12. Demonstrate understanding of EMS training, patient didactics and practical skills.
13. Identify the needs for effective training programs for the fire service at the local and state level, as well as at the higher education level.
14. Relate the knowledge needed to advance to higher levels in the fire service to achieve officer status not excluding the chief officer ranks.
15. Explain water flow, friction loss and water appliances and how they relate to fire hydraulics.

Code	Title	Hours
<b>General Education Requirements</b>		
CHEM 1000	Chemistry of Our Environment Scientific Reasoning	MSCI; Critical Thinking; 4
COMM 1010	Communication Fundamentals <sup>A</sup> Communication; Social and Professional Responsibilities	HUMN; Non-Written 3
ENGL 1010	Composition I Information Literacy	1; HUMN; Written Communication; 3
MATH 1025	Introduction to College Mathematics Reasoning; Quantitative Literacy	MSCX; Scientific 3
SOCS 1010	General Sociology Perspectives	SSCI; Information Literacy; Diverse 3
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		SSCI 3
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		SSCI 3
Subtotal		22
<b>Major Education Requirements</b>		
CHEM 1060	Chemistry of Hazardous Materials	3
COMI Elective ( <a href="https://catalog.ccri.edu/course-descriptions/comi/">https://catalog.ccri.edu/course-descriptions/comi/</a> )		3
ENGL 2100	Technical Writing <sup>1</sup>	3
FIRE 1020	Fundamentals of Fire Prevention (FESHE course)	3
FIRE 1030	Introduction to Fire Science and Officership (FESHE course)	3
FIRE 1040	Fire Fighting Tactics and Strategy	3
FIRE 1050	Building Construction and Fire Codes (FESHE course)	3
FIRE 1070	Fire Protection Systems and Equipment (FESHE course)	3
FIRE 1090	Fire Hydraulics and Equipment	3
FIRE 1100	Municipal Fire Administration	3
FIRE 1120	Investigations, Fire and Explosions	3
FIRE 1130	Emergency Medical Technician Basic <sup>2</sup>	8
Subtotal		41
<b>Total Hours</b>		<b>63</b>

- <sup>1</sup> Placement test required. Students must achieve a score of 75 or above. This test is permitted one time only.
- <sup>2</sup> Must complete health requirements for clinical experience.
- <sup>^</sup> Work-based learning course

are available on the Transfer Center website ([https://ccri.edu/oes/transfer\\_center/](https://ccri.edu/oes/transfer_center/)).

## Recommended Course Sequence

Course	Title	Hours
<b>Year 1</b>		
<b>Semester 1</b>		
FIRE 1030	Introduction to Fire Science and Officership	3
ENGL 1010	Composition I	3
PSYC 2010	General Psychology	4
MATH 1025	Introduction to College Mathematics	3
Social Science Elective ( <a href="https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/">https://catalog.ccri.edu/academic-information/general-education/course-attributes/#sscigened/</a> )		3
<b>Hours</b>		<b>16</b>
<b>Semester 2</b>		
FIRE 1020	Fundamentals of Fire Prevention	3
FIRE 1040	Fire Fighting Tactics and Strategy	3
FIRE 1130	Emergency Medical Technician Basic	8
ENGL 2100	Technical Writing	3
<b>Hours</b>		<b>17</b>
<b>Year 2</b>		
<b>Semester 1</b>		
FIRE 1050	Building Construction and Fire Codes	3
FIRE 1090	Fire Hydraulics and Equipment	3
CHEM 1000	Chemistry of Our Environment	4
COMM 1010	Communication Fundamentals <sup>^</sup>	3
COMI Elective ( <a href="https://catalog.ccri.edu/course-descriptions/comi/">https://catalog.ccri.edu/course-descriptions/comi/</a> )		3
<b>Hours</b>		<b>16</b>
<b>Semester 2</b>		
FIRE 1070	Fire Protection Systems and Equipment	3
FIRE 1100	Municipal Fire Administration	3
FIRE 1120	Investigations, Fire and Explosions	3
CHEM 1060	Chemistry of Hazardous Materials	3
SOCS 1010	General Sociology	3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>64</b>

<sup>^</sup> Work-based learning course

## Transfer

Please meet with an Academic Advisor/Student Success Coach (<https://ccri.edu/advising/>) if you are interested in earning a bachelor's degree. Your Academic Advisor will help you select the courses that best prepare you for transfer to a four-year college or university.

Check out the Joint Admissions Agreement (<https://ccri.edu/jaa/>) if you are interested in transferring to Rhode Island College or the University of Rhode Island. The JAA program offers seamless transfer to RIC or URI with additional benefits. Transfer information, events, and articulations