# Program of Instruction
## Course Syllabus

**Course Title:** Down and Dirty Class A and Compressed Air Foams

**Course Duration:** 4 hours

**Program:** Driver/Operator

**Course Prerequisites:** None

**Course Description:** This 4-hour course is designed for firefighters who are interested in class A foam and compressed air foam systems (CAFS). This course will provide firefighters, pump operators and fire officers with basic knowledge of class A foam and compressed air foam operations. Topics will include class A foam, compressed air foam systems, fire attack utilizing foam, foam system operations, and foam system maintenance. Students will engage in hands-on use of CAFS handlines and CAFS pump operations utilizing IFSI's CAFS trailer or local CAFS equipped fire apparatus. Upon successful completion of this course, the student will have a better understanding of class A and compressed air foam systems and their use for fire attack.

**Course Requirements and/or Recommendations:** These can be divided into three categories: those completed prior to arriving in class (Pre-Course Work), those completed during class, such as homework assignments and quizzes (Course Work), and requirements completed after class sessions have ended, but prior to receiving a certificate of completion. (Post-Course Work)

Summary of Directions

Pre-Course Work: None
Course Work: Attend all classroom and practical sessions.
Post-Course Work: None

**Course Policies:**

**Safety Policy:** Students shall understand and follow all instructions pertaining to operational safety, as stated by instructors or as written in course materials. Instructors and students shall be mindful of safety at all times. Conduct judged to be unsafe shall be grounds for dismissal from the course.

**Academic Integrity Policy:** IFSI has the responsibility for maintaining academic integrity so as to protect the quality of the education provided through its courses, and to protect those who depend upon our integrity. It is the responsibility of the student to refrain from infractions of academic integrity, from conduct that may lead to suspicion of such infractions, and from conduct that aids others in such infractions. Any violation of the code of conduct is grounds for immediate dismissal from the course.

**American Disabilities Act:** As guaranteed in the Vocational Rehabilitation Act and in the American Disabilities Act, if any student needs special accommodations they are to notify their instructor and provide documentation as soon as possible so arrangements can be made to provide for the student's needs.

**Course Content:**

Module: 1
Title: Class A Foam
Terminal Learning Objective:
At the conclusion of this module, the student will discuss Class A foams.

Module: 2
Title: Compressed Air Foam Systems
Terminal Learning Objective:
At the conclusion of this module, the student will discuss Compressed Air Foams.

Module: 3
Title: Fire Attack
Terminal Learning Objective:
At the conclusion of this module, the student will discuss the use of Compressed Air Foam for firefighting operations.

Module: 4
Title: Compressed Air Foam System Operation
Terminal Learning Objective:
At the conclusion of this module, the student will demonstrate the operation of a Compressed Air Foam System.

Module: 5
Title: Compressed Air Foam Systems Maintenance
Terminal Learning Objective:
At the conclusion of this module, the student will demonstrate the post-operational maintenance of a Compressed Air Foam System.

**Reference List:**

Foam Pro, Compressed Air Systems presentation, https://www.fireresearch.com/foampro/presentations/

Foam Pro, Concentrates presentation, https://www.fireresearch.com/foampro/presentations/

Foam Pro, Texas CAFS School II presentation, https://www.fireresearch.com/foampro/presentations/

Foam Pro, Why Foam?, https://www.fireresearch.com/foampro/why-foam/

IFSTA, Pumping Apparatus Driver/Operator Handbook, 3rd Edition

Keith Klassen, CAFS Maintenance Check, https://www.firefighternation.com/articles/2013/04/cafs-maintenance-check.html, April 2013

Lyons Publishing, The Compressed Air Foam Systems Handbook, Dominic Colletti

NFPA 11, Standard for Low-, Medium-, and High-Expansion Foam, Edition 2016

NFPA 1001, Standard for Fire Fighter Professional Qualifications, Edition 2019

NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications, Edition 2017

NFPA 1145, Guide for the Use of Class A Foams in Fire Fighting, Edition 2017

NFPA 1150, Standard on Foam Chemicals for Fires in Class A Fuels, Edition 2017

NFPA 1901, Standard for Automotive Fire Apparatus, Edition 2016

NIST Technical Note 1297, Examination of Compressed Air Foam (CAF) for Interior Fire Fighting, 1994

USFA Technical Report 074, Compressed Air Foam for Structural Fire Fighting: A Field Test Boston, Massachusetts, 1994

Waterous, 10 Reasons Why You Should Use CAFS, http://www.rigspot.com/articles/2016/10/10-reasons-to-use-cafs/, 2016

# Course Schedule

## DAY ONE

| Event | Duration |
|---|---|
| Module 1 – Class A Foam | 20 minutes |
| Module 2 – Compressed Air Foam Systems | 20 minutes |
| Module 3 – Fire Attack | 20 minutes |
| Module 4 – Compressed Air Foam System Operation | 15 minutes |
| Module 5 – Compressed Air Foam System Maintenance | 15 minutes |
| Drill 4.1 – CAFS Handline Operation | 1 hour |
| Drill 4.2 – CAFS Operation | 1 hour |
| Drill 5.1 – CAFS Maintenance | 30 minutes |