

# Program of Instruction

## Course Syllabus

**Course Title:** Advanced Technician Firefighter / NFPA Firefighter II

**Course Duration:** 40 hours

**Program:** Firefighting

**Course Prerequisites:**

Basic Operations Firefighter / NFPA Firefighter I

**Required for National Certification (ProBoard & IFSAC):**

Hazardous Materials Operations (1072 – Ch 5, 6.2, 6.6)

**Course Description:** The Advanced Technician Firefighter/ NFPA Firefighter II course exceeds all requirements outlined by the Illinois Office of the State Fire Marshal and NFPA 1001. This course provides the student with the knowledge and skills necessary to operate under general supervision during Firefighting operations. This course focuses on an intense hands-on approach to advanced firefighting skills. Students will experience advanced lectures to promote critical thinking, practical skills evaluations to promote competency, and live fire scenarios to promote teamwork and coordinated 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 but prior to receiving a certificate of completion. (Post-Course Work)

Summary of Directions

Pre-Course Work: Textbook reading assignment

Course Work: Participate in all drills and scenarios

Pass final exam with a score of 70% or higher

Pass all skill evaluations

Post-Course Work: None

**Textbook:**

Essentials of Fire Fighting, 7<sup>th</sup> Edition, IFSTA, 2018

**References:**

- Brannigan, Francis. "The Building is Your Enemy: Part 5" *Firehouse*, July 1998: 58-64.
- Brannigan, Francis. "The Dangerous Five Classes of Buildings" *Fire Engineering*, May 1999: 120-125.
- Brannigan, Francis. "The Building is Your Enemy: Heavy Timber Construction" *Firehouse*, July 2000: 64-70.
- Brennan, Tom. "Random Thoughts - Collapse: Movement of a Structure" *Fire Engineering*, June 2000: 136.
- Brennan, Tom. "Random Thoughts - The Signs of Impending Building Collapse" *Fire Engineering*, July 2000: 108.
- Building Construction for the Fire Service Quincy MA, National Fire Protection Association, 1994
- Building Construction Related to the Fire Service, Fire Protection Publications, Oklahoma St. University, 1986
- Dunn, Vincent. "Safety & Survival: The Deadly Lightweight Truss" *Firehouse*, January 2001: 16-20.
- Fire Apparatus Engineer, 5<sup>th</sup> Edition, Illinois Fire Service Institute, 2013
- Fire Prevention Applications for the Company Officer, 1<sup>st</sup> Edition, IFSTA, 2010
- Firefighter's Handbook: Essential of Firefighting and Emergency Response, 3<sup>rd</sup> Edition, Delmar Publishers, 2008
- Fundamentals of Fire Fighter Skills, 3<sup>rd</sup> Edition, Jones and Bartlett, 2014
- Introduction to Fire Origin and Cause, 4<sup>th</sup> Edition, IFSTA, 2013
- McCulloch, Paul, How to Conduct a Fire Hydrant Flow Test, Plumbing Systems & Design, December 2011
- National Fire Incident Reporting System, Complete Reference Guide, 5<sup>th</sup> Edition, FEMA, 2015
- Office of the State Fire Marshal, Vehicle and Machinery Operations Instructor Reference Manual, 2006 Edition
- Principles of Vehicle Extrication, 3<sup>rd</sup> Edition, IFSTA, 2009
- Pumping Apparatus & Aerial Apparatus Driver/Operator Handbook, 3<sup>rd</sup> Edition, IFSTA, 2015
- Smith, Michael L. "Heavy Timber Construction: What Firefighters Need to Know" *Firehouse*, July 2000: 64-70.

Smith, James P. "Fire Studies: Floor Collapse" *Firehouse*, August 2000: 20-26.

Standard for Firefighter Professional Qualifications NFPA 1001, Ch. 5, 2019 Edition, National Fire Protection Association

Standard for Rescue Technician Professional Qualifications NFPA 1006, Chapters 5, 10, 19, 2013 Edition, National Fire Protection Association

Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances NFPA 1962, 2013 Edition, National Fire Protection Association

Timber Cribbing Use Handout, Billy Leach Jr., retrieved from <http://firehouseexpo.com/z-pdf/2012/handouts/BRR1-Course-Handout-TimberCribbing-Use.pdf>, 2012

Vehicle Extrication, Levels I and II: Principles and Practice, David A. Sweet, Jones & Bartlett, 2012

Vehicle Rescue and Extrication, 2nd Ed., Ronald E. Moore, Mosby Jems, 2003

## **Reading Assignments:**

### **Before Day 1**

Essentials of Firefighting and Fire Department Operations, 6<sup>th</sup> Edition

Ch. 1 – pp. 33

Ch. 2 – pp. 79, 85

Ch. 3 – pp. 109, 112-113, 116-123, 128

Ch. 4 – pp. 134-138, 140-149, 160, 165, 168-170, 179, 190-203,

Ch. 5 – pp. 210, 227, 239, 250-251

Ch. 9 – pp. 423

Ch. 10 – pp. 484-550, 551-568

### **Before Day 2**

Essentials of Firefighting and Fire Department Operations, 6<sup>th</sup> Edition

Ch. 13 – pp. 745, 760-761

Ch. 14 – pp. 784, 787-791, 793-795

Ch. 15 – pp. 872-874, 931, 938-939

Ch. 16 – pp. 944-946, 951, 967-987, 993-998

Ch. 17 – pp. 1012, 1043, 1057-1077, 1098-1099

### **Before Day 3**

Essentials of Firefighting and Fire Department Operations, 6<sup>th</sup> Edition

Ch. 19 – pp. 1156-1162, 1165-1172

Ch. 20 – pp. 1178-1216

Ch. 21 – pp. 1222, 1226-1230, 1235, 1239-1266, 1257-1258

## **Course Policies:**

**Attendance Policy:** IFSI requires students to attend (100%) or make up all course content that leads to certification. Students are expected to attend on time and to remain in class for the duration of the course. Students **MUST COMPLETE** all portions of a certification course, both classroom and practical, to be eligible to receive their certification.

**Attendance Policy (cont.):** If a student misses any portion of class with an accumulated absence of 20% or less of scheduled class time, it will be the student's responsibility to arrange the make-up of the missed course content with the instructor(s) or program manager. The student must make up the specific course content that s/he missed, not just the hours. Make-ups are limited to 20% of scheduled class time. Make-ups must be documented on the class roster. If a student's absence is greater than 20% refer to "True Emergences" section of the IFSI Examination Policy.

**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.

**Grading Policy:** Decisions regarding certificates of course completion shall be made solely by the lead instructor of the course. All grading of exams shall be conducted by the Curriculum/Testing Office. All grading of practical exercises shall be based upon the standards set by the regulatory agency referenced in the course material and IFSI.

Retesting: If a student fails to pass an exam, retesting takes place on set dates at regional sites across the state. More information is provided in the course completion e-mail and on the IFSI website.

**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. If arrangements cannot be made at the class site, the student will test at an alternative time and place where the special accommodations can be made.

**Evaluation Strategy:** Students will be evaluated with an end of course exam and performance evaluation checklists.

## **Course Content:**

### **Module 1: Fire Department Organization**

#### Terminal Learning Objective:

At the conclusion of this module, the student will identify the need for command and coordinate an incident using an accountability system.

### **Module 2: Communications**

#### Terminal Learning Objective:

At the conclusion of this module, the student will explain the importance of incident reporting in the fire service and the components involved in NFIRS reports.

### **Module 3: Fire Dynamics**

#### Terminal Learning Objective:

At the conclusion of this module, the student will explain principles of fire dynamics and how it may affect fireground procedures.

### **Module 4: Building Construction**

#### Terminal Learning Objective:

At the conclusion of this module, the student will explain the different types of building construction, hazardous conditions created by fire, and collapse hazards.

### **Module 5: Technical Rescue**

#### Terminal Learning Objective:

At the conclusion of this module, the student will demonstrate the ability to assist a technical rescue team in a safe manner.

### **Module 6: Fire Hose**

#### Terminal Learning Objective:

At the conclusion of this module, the student will demonstrate a proper service test of fire hose and document the results.

### **Module 7: Fire Detection and Alarm Suppression Systems**

#### Terminal Learning Objective:

At the conclusion of this module, the student will explain the principles of modern installed fire suppression and alarm systems.

### **Module 8: Tools and Equipment**

#### Terminal Learning Objective:

At the conclusion of this module, the student will demonstrate basic maintenance and care procedures for fire service saws and power equipment.

### **Module 9: Fire Control**

#### Terminal Learning Objective:

At the conclusion of this module, the student will identify suppression approaches and practices for structural fires.

**Module 10: Foam**Terminal Learning Objective:

At the conclusion of this module, the student will be able to identify the types of foam common to firefighting and understand their extinguishing characteristics.

**Module 11: Company Level Inspections and Pre-incident Planning**Terminal Learning Objective:

At the conclusion of this module, the student will discuss the skills involved in conducting a company-level inspection and the process of pre-incident planning.

**Module 12: Public Education**Terminal Learning Objective:

At the conclusion of this module, the student will explain the planning process involved in developing fire and life safety education programs.

**Module 13: Evidence Protection**Terminal Learning Objective:

At the conclusion of this module, the student will protect evidence of a fire cause.

**Module 14: Vehicle Extrication**Terminal Learning Objective:

At the conclusion of this module, the student will demonstrate the different phases of the extrication process.

# Course Schedule

## DAY ONE

<u>Event</u>	<u>Duration</u>
Introduction and Director's Welcome	1 hour 30 min
Module 1 – Fire Department Organization	45 minutes
Module 2 – Communications	40 minutes
Drill 2.1 – Complete NFIRS Incident Report	5 minutes
Module 3 – Fire Dynamics	1 hour
Lunch	
Gear Inspection and Building Walk-through	1 hour 30 min
Module 4 – Building Construction	45 minutes
Drill 4.1 – Identifying Hazardous Building Conditions	15 minutes
Module 5 – Technical Rescue	30 minutes
Rig Checks and Gear Storage	1 hour

## DAY TWO

<u>Event</u>	<u>Duration</u>
Module 6 – Fire hose	30 minutes
Module 7 – Installed Systems	45 minutes
Drill 3.1 – Fire Dynamics	1 hour
Drill 6.1 – Fire Hose Service Test	1 hour
Module 8 – Tools and Equipment	45 Minutes
Lunch	
Module 9 – Fire Control	1 hour 15 min
Module 10 – Foam	30 minutes
Drill 9.1 – Fire Control: Coordinated Fire Attack	1 hour 30 min
Drill 5.1- Technical Rescue	30 minutes
Drill 8.1- Tools and Equipment	15 minutes

## DAY THREE

<u>Event</u>	<u>Duration</u>
Module 11 – Company Level Inspections and Pre-incident Planning	30 minutes
Module 12 – Public Education	30 minutes
Module 13 – Evidence Protection	30 minutes
Drill 11.1 – Company Level Inspections	30 minutes
Drill 11.2 – Conduct a Pre-incident Survey 30 Minutes	1 hour
Drill 12.1 – Educational Presentation	1 hour
Drill 13.1 – Protecting Evidence	30 minutes
Lunch	
Drill 9.2 – Fire Control: Gas Cylinder and Flammable Liquid Fires	2 hours
Module 14 – Vehicle Extrication	45 minutes
Extrication Drills	1 hour
Drill 14.1 – Stabilization	
Drill 14.2 – Glass Removal	
Drill 14.3 – Forcing Door with Spreader	
Drill 14.4 – Door Removal Hinge Side	
Drill 14.5 – 5th Door	
Drill 14.6 - Dash Roll	
Drill 14.7 – Dash Lift	
Drill 14.8 – Partial Roof Flap and Removal	
Drill 14.9 – Patient Care, Packaging, and Removal	

## **DAY FOUR**

<b><u>Event</u></b>	<b><u>Duration</u></b>
Drill 2.2 – Size up and Assuming Command	1 hour
Coordinated Fire Scenario 1	1 hour 30 min
Coordinated Fire Scenario 2	1 hour 30 min
Lunch	
Practical Skills Evaluations	4 hours

## **DAY FIVE**

<b><u>Event</u></b>	<b><u>Duration</u></b>
Final Exam	2 hours
Coordinated Fire Scenario 3	2 hours
Lunch	
Coordinated Fire Scenario 4	2 hours
Cleanup, Review and Dismissal	2 hours