



DEPARTMENT OF FINANCIAL SERVICES

Division of State Fire Marshal
Bureau of Fire Standards & Training

Aerial Operations

Title: Master Syllabus

Date: October 3, 2017

Course Title	Aerial Apparatus Operations
Course Number	FFP1302, BFST1302 or ATCP1302
Prerequisite(s)	FFP1301, BFST1301, or ATPC1301 Fire Service Hydraulics
Revision Date	October 3, 2017
College Credit Recommendation	This course has a college recommendation of 3 credits.
Continuing Education Units (CEU's)	This course does not provide CEUs
Class Days/Time	If on the Fire College Campus - 8:00am to 5:00pm with 5 additional hours of out of class work may be required.
Instructional Supervisor	Name: Frank Ennist Email: frank.ennist@myfloridacfo.com
Program Specialist	Name: Email:
Course Description	<p>Classroom lectures and practical exercises are conducted in the principles and uses of aerial apparatus, including the recognition of hazards which may be present during aerial operations. The curriculum also includes classroom lectures and exercises in the principles, uses and tactical and safe placement of platform apparatus.</p> <p>Students should have completed Apparatus Operations and Fire Service Hydraulics prior to registering for this class.</p> <p>NOTE: Students must bring gloves, hardhat and proper attire for master stream operations and aerial exercises. Students will be required to ascend and descend aerial ladders and aerial platforms.</p> <p>This course may be adjusted if the department does not have all the types of aerial devices.</p>
Student Learning Outcomes	<p>After the successful completion of this course, the student will be able to do the following:</p> <ol style="list-style-type: none">1. Describe the different types of aerial apparatus.2. Discuss the primary features of aerial apparatus.3. Describe and perform routine and preventative maintenance inspections.4. Discuss the aspects of safe aerial apparatus operation.5. Describe proper positioning of aerial apparatus based on functions

	<p>for which it may be used.</p> <p>6. Discuss stabilization of the aerial apparatus.</p> <p>7. Discuss the special systems on aerial apparatus.</p> <p>8. Discuss the types of strategies and tactical uses of aerial apparatus.</p>
Textbook used by FSFC	<i>Pumping and Aerial Apparatus Driver/Operator Handbook (3rd ed.);</i> IFSTA Publishing (2015) ISBN: 978-087039571-1 Chapters 16, 17, 18, 19, and 20
Required Materials	Apparatus and appliances for driving/pumping/ladder & platform operations; water sources; special systems; and safety equipment.
Method of Instruction	Classroom and practical.
Grading	Passing 70%
Certification(s)	<p>One of two courses required for Apparatus & Pump Operator Certification</p> <p>FFP1301, BFST 1301, ATCP 1301 Fire Service Hydraulics FFP1302, BFST 1302, ATCP 1302 Apparatus Operations</p>
Attendance Policy	You are required to attend all sessions of the course and complete all pre-course assignments. Failure to appear in class for a scheduled activity will be considered an absence. Students are allowed to miss 10% of the class and still receive credit. There are no makeup sessions.
Academic Integrity	<p>Academic integrity is crucial to the learning community and indicates respect for the college, the instructor, the course, your classmates and yourself. Any violation of this trust, including but not limited to cheating, plagiarism, collusion, or using or having any content of an un-administered test, will result in immediate dismissal from the course. Under Florida Statute 633, any student dismissed for academic dishonesty can be refused acceptance for any course administered by FSFC.</p> <p>Qualification Description This course issues a Certificate of Completion</p> <p>Training Provider Message You must be certified by the State of Florida as an Instructor I, II, or III, or a State of Florida recognized Fire Department, or hold a certification as a Single Course Exemption Instructor. Applications can be made through the Bureau of Fire Standards and Training. Organization Providers are Schools, Government Entities, and Businesses that need to apply and be approved by the Florida State Fire College.</p> <p>Instructor Message You may teach courses for this type of Certification or Competency only if you hold the certification, and the appropriate disciplines.</p>

<i>Students with Disabilities</i>	Any student who has a permanent or temporary disability that may require a reasonable accommodation to participate in the course must present documentation of the disability and requested accommodation no later than the beginning of the course.
<i>Emergency Evacuation Policy</i>	<p>Occupants of buildings on the Florida State Fire College campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation.</p> <ul style="list-style-type: none"> • Familiarize yourself with all exit doors of the classroom and the building. • Remember that the nearest exit door may not be the one you used when you entered the building. • If you require assistance to evacuate, inform the instructor on the first day of class. • In the event of an evacuation, follow the guidance of the instructor. • Do not re-enter a building unless you are given instructions by Florida State Fire College personnel to do so.
<i>Requesting Emergency Care</i>	Any request for emergency care should be initiated by calling “911” from any phone on campus of the Florida State Fire College. Phones are located in each classroom. Additionally, in the event of any emergency, immediately contact an instructor or staff member.
<i>Critical Event Procedures</i>	<p>Severe Weather – there is a lightning detection system on campus which has an audible 15 second blast of an air horn. If you are outside, please follow your instructor or move to the closest permanent building. Once the threat is over, there will be three 5 second blasts of the signal.</p> <p>Security – During the daytime, security is handled by full time faculty and staff. There are security guards on duty in the evenings and weekends. Please comply with the requests made of security officers. Failure to do so can result in removal from campus.</p> <p>Student Badges – You will be issued a badge to be worn anytime you are on campus.</p>
<i>Enabling Objectives</i>	<p>Given information from discussion and reading materials, the student will perform the following objectives to a written test accuracy of at least 70% and meet the applicable job performance requirements of NFPA 1002 (2014).</p> <p><u>Chapter 16: Introduction to Aerial Fire Apparatus</u></p> <ol style="list-style-type: none"> 1. List primary features of aerial apparatus and aerial devices. (6.2.2, 6.2.3, 6.2.4) 2. Recognize aerial ladder apparatus. (6.2.3, 6.2.4) 3. Identify types of elevating platform apparatus. (6.2.3, 6.2.4)

4. Describe water towers. (6.2.3, 6.2.4)
5. Identify the five functions of a quint apparatus. (6.2.3, 6.2.4)
6. Explain the functions of cable systems, chains, slides, and rollers on an apparatus. (6.1.1, 6.2.3, 6.2.4)
7. Locate control pedestals on a variety of apparatus. (6.2.3, 6.2.4)
8. Describe interlock devices. (6.2.3, 6.2.4)
9. Explain aerial apparatus water delivery systems. (6.2.3, 6.2.4)
10. Describe aerial apparatus water tower systems. (6.2.3, 6.2.4)
11. Identify communications systems used on aerial apparatus. (6.1.1, 6.2.3, 6.2.4)
12. Explain the use of breathing air systems on aerial apparatus. (6.1.1, 6.2.3, 6.2.4)
13. List types of apparatus-mounted special systems. (4.3.7, 6.2.3, 6.2.4)
14. Identify hydraulic extrication tool systems used on aerial apparatus. (4.3.7, 6.2.3, 6.2.4)
15. Describe types of portable equipment carried on aerial apparatus. (4.3.7)
16. Describe the steps for inspecting a tiller system. (4.2.1, 4.2.2, 6.1.1)
17. Explain the procedures for inspecting an aerial device. (4.2.1, 4.2.2, 6.1.1)
18. List the different methods of apparatus testing. (4.2.1, 4.2.2, 6.1.1)
19. Visually inspect a fire apparatus aerial device. (4.2.1, 4.2.2, 6.1.1; Skill Sheet 16-2)

Chapter 17: Positioning Aerial Apparatus

1. List standard operating procedures for positioning aerial apparatus. (6.2.1)
2. Evaluate tactical considerations affecting positioning of aerial apparatus. (6.2.1, 7.2.3)
3. Explain factors to consider when spotting aerial apparatus. (6.2.1, 6.2.3, 6.2.4, 7.2.3)
4. Explain guidelines for positioning and operating apparatus in unique response situations. (6.2.1, 6.2.2, 7.2.3)

Chapter 18: Stabilizing the Apparatus

1. Describe considerations in stabilizing aerial apparatus. (6.2.1, 6.2.2)
2. Explain the considerations taken when transferring power to the hydraulic system. (6.2.1, 6.2.3)
3. Describe the steps taken in setting apparatus stabilizers. (6.2.1, 6.2.2)
4. Explain the process of locking stabilizers and transferring power to the aerial device. (6.2.2)
5. Explain considerations to take when retracting stabilizers. (6.2.2)
6. Describe the use of manual stabilizers. (6.2.2)

	<p>7. Determine the actions required for stabilizing tractor-trailer apparatus. (6.2.2)</p> <p><u>Chapter 19: Operating Aerial Apparatus</u></p> <ol style="list-style-type: none"> 1. Explain safety considerations when climbing and riding on an aerial device. (6.2.3) 2. Identify safe practices for operating aerial controls. (6.2.3, 6.2.4, 6.2.5) 3. Identify safe practices for operating telescoping aerial equipment. (6.2.3, 6.2.4) 4. Identify safe practices for operating articulating aerial equipment. (6.2.3, 6.2.4) 5. Describe the use of aerial ladder water delivery systems. (6.2.3) 6. Describe safe practices in case of aerial device malfunction or power failure. (6.2.1, 6.2.3, 6.2.4) 7. Explain considerations for aerial apparatus below-grade operations. (6.2.3) 8. List general safety tenets for aerial devices. (6.2.3) <p><u>Chapter 20: Aerial Apparatus Strategies and Tactics</u></p> <ol style="list-style-type: none"> 1. Describe effective communication procedures for aerial operations. 2. Describe the use of aerial devices to access upper levels. (6.2.3) 3. Describe the ways aerial devices can be used in rescue operations. 4. Explain the ways an aerial apparatus may be used in ventilation. (6.2.3) 5. Analyze the considerations of using the aerial apparatus during elevated fire attack. (6.2.3, 6.2.5) 6. Identify means of using an aerial apparatus for exposure protection. (6.2.3) 7. Identify the ways an aerial apparatus may be used to support operations involving aircraft rescue and firefighting (ARFF) incidents. (6.2.3)
<p><i>Practical Applications</i></p>	<p><u>Chapter 16: Introduction to Aerial Fire Apparatus</u></p> <ol style="list-style-type: none"> 1. Perform a routine maintenance inspection of a tiller. (4.2., 4.2.2; Skill Sheet 16-1) 2. Test the operation of a telescoping aerial apparatus. (4.2.2, 6.1.1; Skill Sheet 16-3) 3. Test the operation of an articulating aerial apparatus. (4.2.2, 6.1.1; Skill Sheet 16-4) 4. Test the operation of a water tower apparatus. (4.2.2, 6.1.1; Skill Sheet 16-5) <p><u>Chapter 18: Stabilizing the Apparatus</u></p> <ol style="list-style-type: none"> 1. Deploy, lock, unlock, and raise hydraulic stabilizers. (6.2.2; Skill Sheet

- 18-1)
2. Stabilize a tractor-trailer aerial apparatus. (6.2.2; Skill Sheet 18-2)

Chapter 19: Operating Aerial Apparatus

1. Choose procedures for safe operation of aerial equipment under adverse conditions. (6.2.1, 6.2.3)
2. Raise and lower a telescoping aerial device not equipped with a platform. (6.2.3; Skill Sheet 19-1)
3. Raise and lower a telescoping device equipped with a platform. (6.2.3; Skill Sheet 19-2)
4. Raise and lower an articulating water tower. (6.2.3; Skill Sheet 19-3)
5. Raise and lower an articulating aerial platform. (6.2.3; Skill Sheet 19-4)
6. Lower an aerial device using the Emergency Power Unit (EPU). (6.2.4; Skill Sheet 19-5)

Chapter 20: Aerial Apparatus Strategies and Tactics

1. Deploy and operate an elevated master stream. (6.2.5; Skill Sheet 20-1)

Plan of Instruction

Day 1:

Cover syllabus – 40 hours/4-10 hour days of instruction

Lecture – Chapters 16, 17, & 18

Truck familiarization

Day 2:

Lecture – Chapters 19 & 20

Apparatus measurements/weights

Aerial reach chart construction

Day 3:

Aerial field problems using charts

E-One aerial plant walk-through

Day 4:

Written Exam

Water flow exercises

Water flow chart construction

THE BUREAU OF FIRE STANDARDS & TRAINING

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