

CHAPTER 1

INTRODUCTION

ABOUT THIS COURSE

The Florida Certified Prescribed Burn Manager Training Program has been developed by cooperating agencies, organizations and individuals and has been designed for those who participate in the use of prescribed fire as a land management practice in Florida. The training pertains to broadcast (acreage) burns conducted for the purposes of: silviculture, wildland fire hazard reduction, wildlife management, ecological maintenance and restoration, and agriculture. This course and manual have also been designed to meet Florida Forest Service (FFS) training requirements for the Certified Prescribed Burn Manager (CPBM) program. In 2006 a similar but separate training and certification process was established for pile burners. Under that program a Certified Pile Burner (CPB) may conduct pile burns for a variety of purposes. There is no overlap or reciprocity between these two programs.

Students who successfully complete this course may contact the FFS to continue with the CPBM process. The FFS currently requires each applicant to document and fulfill field training standards and demonstrate proficiency in managing a prescribed burn. This includes participation in prescribed burns; proficiency in all subject areas associated with Florida prescribed burns, and the planning and completion of one prescribed burn. The applicant will be required to prepare a written plan, conduct the burn, complete mop-up, and declare the fire out. While the course has been developed specifically for Florida, the principles and science incorporated herein may be modified for use outside of this state.

Fire management is a hazardous occupation. Clear communication between personnel is crucial to the safe and efficient completion of assigned duties. It is thus incumbent upon fire management personnel to use correct terminology, but this is no easy task. The fire management field has developed many new terms and standard dictionary terms often have specific connotations and nuances. In order to improve communication for those involved in prescribed fire activities, a glossary is provided (Appendix A). This glossary should be reviewed prior to working on individual chapters.

LEARNING OBJECTIVES

This course prepares students for participation in all phases of prescribed burning. It currently meets the ***basic educational*** requirement for the Florida Forest Service ***CERTIFIED BURN MANAGER*** program. This course has been divided into twelve chapters. Chapters one through nine cover basic subject areas which must be incorporated in every prescribed burn. Chapters ten through twelve cover the four operational phases associated with every prescribed burn.

COURSE OBJECTIVES

1. Identify the requirements and components for developing proper burn prescriptions and operational plans in accordance to Florida statutes.
2. Develop a burn prescription and an operational plan for given land management objectives, fire history, weather data, and fuel type and loading.
3. Safely execute the operational plan, accomplishing management objectives and evaluate immediate post-burn fire effects with emphasis on management objectives.

CHAPTER OBJECTIVES

WHY WE BURN

1. Identify the need for prescribed fire.
2. Explain the historical relationship between Florida and fire.

LEGAL REQUIREMENTS

1. Demonstrate an understanding of *laws*, *rules* and *procedures* which regulate open burning in Florida.
2. Demonstrate knowledge of the burner's legal obligations regarding broadcast burning.

PUBLIC RELATIONS

1. Explain the difference between employer and individual responsibilities.
2. Identify with the public's fears and how they should be addressed.
3. Identify components for building a good prescribed fire public relations program

SAFETY

1. Explain why fire safety must be given the same priority on prescribed fire as it is given on wildfire.
2. Identify safety issues which should be addressed in the written safety section.
3. List recommended items of personal protective equipment to be used on prescribed burns.
4. Relate standard principles of fire line safety to prescribed fire operations.
5. Explain the function and limitations of fire shelters. Deploy a fire shelter.

WEATHER

1. Describe the various types of wind and how wind influences fire behavior.
2. Understand the temperature/humidity relationship.
3. Define stability, inversion, mixing height, dispersion index and transport wind speed.

4. List the methods by which heat is transferred, and the effects of weather.
5. Explain the sea breeze process and the possible effects on prescribed fires.
6. Describe the passage of a typical cold front in Florida, particularly as it relates to wind and temperature.
7. List the influences of thunderstorms on fire behavior.
8. Understand the differences and usages of the daily planning, spot, red flag event and other weather forecasts.
9. Use a belt weather kit to take a representative weather observation
10. Discuss the steps in obtaining a spot weather forecast.

FIRE BEHAVIOR

1. Identify fire behavior terms.
2. Explain the fire triangle.
3. Discuss the major elements of the fire environment.
4. List and explain the three methods of heat transfer.
5. List fuel characteristics which govern combustion.
6. Identify fuel model categories and examples in Florida.
7. Explain the difference between fire intensity and severity and how both can be regulated and measured.
8. Define residence time and why it is significant in prescribed fire.
9. Discuss indicators of erratic or potentially erratic fire behavior.

SMOKE MANAGEMENT

1. List major pollutants associated with wildland fire.
2. Identify smoke-sensitive areas (SSAs) and explain the designation of a ***Critical smoke –sensitive area.***
3. List the current legal requirements for managing smoke produced during prescribed fires.
4. Identify situations that can lead to smoke related problems.
5. Relate the dispersion index and LVORI to smoke management for both day and night conditions.
6. Identify ignition strategies that reduce undesirable emissions.
7. Describe and implement the smoke screening system taught in this course.

ECOLOGICAL EFFECTS

1. Identify fire's primary effects on the basic physical ecosystem components of water and soils.
2. Identify fire's primary effects on floral (plants) and faunal (animal) components of ecosystems.
3. Identify common Florida fire-dependent ecosystems and frequency of fire return intervals that sustain them.
4. Understand the relationship between season or timing of fire applications and certain ecosystem responses.
5. Understand the connection between burn prescription parameters and ecological effects.

FIRING TECHNIQUES

1. Explain the characteristics of head, flanking, and backing fires.
2. Describe the application of four common ignition patterns.
3. Describe safety concerns associated with specific ignition patterns.
4. List the factors that determine the appropriate firing technique.
5. Develop an ignition plan for a specific scenario.

HOLDING AND CONTINGENCIES

1. Demonstrate and describe how to maintain a fire within an authorized area.
2. Describe what to do WHEN a prescribed fire escapes or burns out of prescription.
3. Discuss standards for Mop-Up and Declaring the Fire Out.

PLANNING

1. Identify required and recommended elements to be addressed in every burn plan.
2. Write clear and measurable objectives for specific burns.
3. Describe the contingency plan elements for an escaped prescribed fire in Florida.
4. Develop a prescription which meets legal requirements and landowner directives.

COURSE PROCEDURES

This course is offered through the Florida Forest Service. An Interagency Steering Committee sets course dates each summer. Registration is normally open in September and classes are held throughout the state from November through June.

In addition to the scheduled instruction each student receives a pre-work assignment ***which must be completed and submitted at the beginning of class.*** The time required for this exercise will be different for each student but a minimum commitment of 40 hours is recommended. A pre-test worth 10% of the course grade will be given at the beginning of class. Completion of the pre-work will greatly increase the chances of doing well on the pre-test.

The materials covered in this manual will be reviewed and demonstrated during the scheduled class sessions.

Class schedules have been designed for an intensive 24-hour session offered in either a 3 or 4 day format. The three day format begins at 8am on the first day and ends at 5pm on the third day. The four day format begins at 1pm on the first day and ends at Noon on the fourth day. Class attendance is mandatory. Students who do not meet this requirement will not be allowed to take the final exam.

COURSE AGENDA

Registration Students are encouraged to register as soon as the courses are announced. This usually occurs during the first week of September. Registration must be completed at least one month prior to the class session. Early registration allows each student to receive the course manual and pre-work at least four weeks prior to class.

Pre-work During the month before class students are encouraged to review the manual with emphasis on information related to the written pre-work assignment. This written assignment must be completed before classes begin. In addition to the pre-work everyone is encouraged to review the glossaries found in Appendix A.

Class Sessions This is a very intense course so class schedules will be strictly followed. Students are expected to be in class and ready to go at start time. Lunch will be the responsibility of the student unless noted in the class registration information.

COURSE COMPLETION

Students will receive a final grade by adding the score of the pre-test (10 points maximum) and the final exam score (90 points maximum). The passing grade is 80.

Students pursuing ***Certification*** as a Burn Manager are required to pass this course before continuing the certification process with the Florida Forest Service. Some agencies may also require those participating in prescribed burns on a regular basis to also pass this course. Any student who has completed the course work but failed the exam may, within one calendar year retake the exam.

TEAMWORK

Success in this course requires a substantial commitment from each student. Students with little experience will have to spend extra time reviewing materials and terminology while ‘experienced burners’ may have to awaken long dormant learning skills. The Florida Forest Service and the individual instructors are dedicated to maintaining this course as a valuable learning tool for prescribed burners. The student can find additional valuable information on a variety of web sites. Many of those web sites are listed in Appendix B. For example the FFS web site includes valuable information on this course including many of the power point presentations. These include figures and diagrams which supplement the individual chapters.

Each student is encouraged to approach this course as an important team member. Diligent completion of the pre-work, formation of study groups, class participation and maintaining a positive attitude throughout this process will make this course both productive and enjoyable.

CLASS SCHEDULE (3-Day)

Day-1

08:00 - 08:30	Check-in, Introduction and Pre-Test
08:30 - 09:30	Why We burn
09:30 - 11:00	Legal Requirements
11:00 - 12:00	Public Relations

Lunch

13:00 - 15:00	Safety
15:00 - 17:00	Fire Weather

Day-2

08:00 - 10:00	Fire Behavior
10:00 - 12:00	Smoke Management

Lunch

13:00 - 15:00	Ecological Effects
15:00 - 17:00	Firing Techniques

Day-3

08:00 - 09:00	Holding and Contingencies
09:00 - 12:00	Planning and Evaluation

Lunch

13:00 - 14:00	Planning and Evaluation-Cont.
14:00 - 15:00	Review
15:00	Final Exam

CLASS SCHEDULE (4-Day)

Day-1

13:00 - 13:30	Check-in, Introduction and Pre-Test
13:30 - 14:30	Why We burn
14:30 - 16:00	Legal Requirements
16:00 - 17:00	Public Relations

Day-2

08:00 - 10:00	Safety
10:00 - 12:00	Fire Weather

Lunch

13:00 - 15:00	Fire Behavior
15:00 - 17:00	Smoke Management

Day-3

08:00 - 10:00	Ecological Effects
10:00 - 12:00	Firing Techniques

Lunch

13:00 - 14:00	Holding and Contingencies
14:00 - 17:00	Planning and Evaluation

Day-4

08:00 - 09:00	Planning and Evaluation-Cont.
09:00 - 10:00	Review
10:00	Final Exam