

**CENTRAL TEXAS COLLEGE  
SYLLABUS FOR FIRT 2309  
FIRE FIGHTING STRATEGIES AND TACTICS I**

**Semester Hours Credit: 3**

**INSTRUCTOR:** \_\_\_\_\_

**OFFICE HOURS:** \_\_\_\_\_

**I. INTRODUCTION**

- A. This course will provide an analysis of the nature of the many diverse fire situations one can face and focuses on the selection of initial strategies and tactics including an in-depth evaluation of the efficient and effective use of manpower, apparatus, equipment and resources to mitigate the given emergencies.
- B. This is a required course for an Associate of Applied Science Degree in Fire Protection Technology.
- C. This course is occupationally related and serves as preparation for a career in Fire Protection and Fire Service.
- D. Prerequisites: None
- E. Alphanumeric coding used throughout the syllabus denotes the integration of SCANS Occupational Competencies (C) and Fundamental Skills (F).

**II. LEARNING OUTCOMES**

Upon successful completion of this course, Firefighting Strategies and Tactics I, the student will:

- A. Be able to recognize potential scenarios in various fire situations (C1,C5-C7,F1)
- B. Select and implement appropriate strategies and tactics.(C1, F6, F8, F9, F13)
- C. Describe the components of an incident command system.(C7,C15,F6)

**III. INSTRUCTIONAL MATERIALS**

- A. The instructional materials identified for this course are viewable through [www.ctcd.edu/books](http://www.ctcd.edu/books)
- B. References: “Fire Officer’s Handbook of Tactics”, 4<sup>th</sup> edition 2012, by John Norman. Pennwell Corporation Publishing, ISBN 9781593702793

#### IV. COURSE REQUIREMENTS

- A. Your first responsibility is scholarship. The grade you receive for this course will not be the grade of the instructor, but the grade you and you alone earn.
- B. This course is designed to require a steady, continuous effort from the student. A crash-cram policy will not result in the best grade possible. In addition to exams, factors such as class participation, initiative, attendance, and individual work will be considered in grade computation.
- C. You are encouraged to give your best effort throughout the semester. From the beginning, you should plan for a steady, organized, and continuous effort, which in the long run will prove more effective for your final grade than a last minute crash-cram policy. Your course grade is not determined solely by exam grade. Such factors as class participation, initiative, attendance, and individual research papers or projects will be considered in grade computation.
- D. From time to time, special library and other assignments may be made to members of the class, individually and in groups. You are expected to read all assignments and fulfill your responsibilities to any group assignments.
- E. You are expected to read all assigned material and bring your textbook to class. Keep up to date and informed on assignments, especially after a period of absence.
- F. Good class notes are indispensable for earning a good grade since both the material assigned and discussed will be the basis for examination material. Regular attendance is essential for the same reason.
- G. Scholastic Honesty: All students are required and expected to maintain the highest standards of scholastic honesty in the preparation of all coursework and during examinations. The following are considered examples of scholastic dishonesty:

Plagiarism: The taking of passages from the writing of others without giving proper credit to the sources.

Collusion: Using another's work as one's own, or working together with another person in the preparation of work, unless such joint preparation is specifically approved in advance by the instructor.

Cheating: Giving or receiving information on examinations.

- H. Special Work: Special assignments may be made during the semester, both for regular work or supplemental work.

## V. EXAMINATIONS

- A. There will be a minimum of three (four at the discretion of the instructor) major examinations as follows:
1. Three-week exam
  2. Mid-term exam
  3. Twelve-week exam (optional)
  4. Final exam
- B. Unannounced short quizzes may be given covering any material that has been assigned from the beginning of the course.
- C. Occasionally a student will find it unavoidable to be absent from an exam. Only students with excused absences will be permitted to take make-up exams. Unexcused absences will result in a zero for the exam missed. The policy of the college is clearly stated in the catalog. A doctor's excuse is required in case of illness.
- D. The exams will be structured to usually include both subjective and objective type of questions.

## VI. SEMESTER GRADE COMPUTATION

<u>EXAM</u>	<u>POINTS</u>	<u>POINTS</u>	<u>GRADES</u>
Three-week exam	100-200	900-1000	A=4pts/sem hr
Mid- term exam	200-250	800-899	B=3pts/sem hr
Twelve-week exam (Opt)	200-0	700-799	C=2pts/sem hr
Final exam	300-350	600-699	D=1pt/sem hr
*Incentive Points	50-50	0-599	F=0pts/sem hr
Special Work	<u>150-150</u>		
TOTAL	1000-1000		

\*Incentive points are earned by doing special work on your own initiative, participating in class discussion, your attitude toward assignments and having a good attendance record. Three points are deducted for each unexcused absence. Military assignments or unavoidable circumstances will be evaluated upon notification to class instructor.

## VII. NOTES AND ADDITIONAL INSTRUCTIONS FROM COURSE INSTRUCTOR

A. Withdrawal from Course: It is the student's responsibility to officially drop a class if circumstances prevent attendance. Any student who desires to, or must, officially withdraw from a course after the first scheduled class meeting must file a Central Texas College Application for Withdrawal (CTC Form 59). The withdrawal form must be signed by the student. CTC Form 59 will be accepted at any time prior to Friday of the 12th week of classes during the 16 week fall and spring semesters. The deadline for sessions of other lengths is as follows.

10-week session Friday of the 8th week  
8-week session Friday of the 6th week  
5-week session Friday of the 4th week

The equivalent date (75% of the semester) will be used for session of other lengths. The specific last day to withdraw is published each semester in the Schedule Bulletin.

Students who officially withdraw will be awarded the grade of "W", provided the student's attendance and academic performance are satisfactory at the time of official withdrawal. Students must file a withdrawal application with the college before they may be considered for withdrawal.

A student may not withdraw from a class for which the instructor has previously issued the student a grade of "F" or "FN" for nonattendance.

B. An Administrative Withdrawal: An administrative withdrawal may be initiated when the student fails to meet College attendance requirements. The instructor will assign the appropriate grade on the Administrative Withdrawal Form for submission to the registrar.

C. An Incomplete Grade: The College catalog states, "An incomplete grade may be given in those cases where the student has completed the majority of the course work but because of personal illness, death in the immediate family, or military orders, the student is unable to complete the requirements for a course..." Prior approval from the instructor is required before the grade of "I" is recorded. A student who merely fails to show for the final examination will receive a zero for the final and an "F" for the course.

D. Cellular Phones and Beepers: Cellular phones and beepers will be turned off while student is in the classroom or laboratory.

E. American's With Disabilities Act (ADA): Disability Support Services provides services to students who have appropriate documentation of a disability. Students requiring accommodations for class are responsible for contacting the Office of Disability Support Services (DSS) located on the central campus. This service is available to all students, regardless of location. Explore the website at [www.ctcd.edu/disability-support](http://www.ctcd.edu/disability-support) for further information. Reasonable accommodations will be given in accordance with the federal and state laws through the DSS office.

## VIII. COURSE OUTLINE

A. Unit One: Introduction to the Course and Chapter One- General Principles of Firefighting.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define the general principles of firefighting.
- b. List the priorities in firefighting.
- c. Explain the concepts of use of staffing/manpower in an incident.
- d. Detail the sequence of actions to be taken at an incident.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 1, pages 1-8.
- c. Audio-visual aids: Instructors' preference

3. Unit Outline: Refer to Contents, textbook page v.

**B. Unit Two:** Chapter 2, Size-up

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define Size-up
- b. State the traditional 13-point size-up factors.
- c. State the categories of life hazard.
- d. Describe the effects of the following on size-up:
  1. Occupancy
  2. Time
  3. Construction
- e. Describe the five classes of structures.
- e. State the problems each of the following present during an incident:
  1. Height and area of the structure/incident.
  2. Location and extent of the fire.
  3. Exposures
  4. Apparatus and manpower.
  5. Water supply.
  6. Auxiliary appliances, if they are present.
  7. Weather and street conditions.
  8. Presence of hazardous materials.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 2, pages 9-34
- c. Audio-visual aids: Instructors' preference

3. Unit Outline: Refer to Contents, textbook page v.

**C Unit Three:** Chapter Three, Engine Company Operations

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Identify the stages of fire behavior.
- b. Describe the stages of combustion
- c. Describe the different operating modes, and their guidelines for use.
- d. Describe the rules to consider in fire attack.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 3, pages 35-56.
- c. Audio-visual aids: Instructors' preference.

3. Unit Outline: Refer to Contents, textbook page v.

**D. Unit Four :** Chapter 4: Hoseline Selection, Stretching, and Placement.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Describe the factors affecting choice of hoselines.
- b. Select the proper attack lines, based on the incident.

- c. Describe the proper method for stretching hose lines.
- d. Describe proper placement of hose lines.
- e. Identify different types of nozzles and their uses.
- f. Describe the types of foam and their uses.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 4, pages 57-94
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page vi.

E. Unit Five: Chapter 5: Water Supply.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define the basic principles of pressure.
- b. Define the following terms:
  - 1. Static pressure
  - 2. Flow pressure
  - 3. Residual pressure
  - 4. Friction loss
  - 5. Relay pumping
- c. Describe the use of large-diameter hose.
- d. Identify the proper use of heavy streams.
- e. **Three-week examination, if one is given.**

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 5, pages 95-121
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page vi.

F. Unit Six: Chapter 6: Sprinkler Systems and Standpipe Operations.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Describe the operations of fire departments in support of sprinklered structures.
- b. Identify problems with sprinklers.
- c. Describe the different types of sprinkler systems and their appropriate uses.
  - 1. Automatic Wet System
  - 2. Automatic Dry (or dry-pipe) Systems
  - 3. Deluge Systems
  - 4. Preaction Systems
  - 5. Nonautomatic Systems
  - 6. Combination Sprinkler and Standpipe Systems
- d. Describe the size up process for sprinklered properties.
- e. Identify the different types of standpipe systems.

- f. Identify the classes of standpipe systems.
- g. Identify the proper tactics for using standpipe systems.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 6, pages 123-164
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page vi.

G. **Unit Seven:** Chapter 7: Ladder Company Operations.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define the role of the ladder company.
- b. Describe the process of ladder selection.
- c. Outline the proper angle and placement of ladders.
- d. Describe the safe use of ladders.
- e. List the primary functions of aerial ladders.
- f. Describe these tasks associated with ladder company operations:
  - 1. Overhaul
  - 2. Salvage
  - 3. Control of Utilities

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 7, pages 165-200
- c. Audio-visual Aids: Instructors Preference

3. Unit Outline: Refer to Contents, textbook pages vi & vii.

H. **Unit Eight:** Chapter 8: Forcible Entry

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define forcible entry.
- b. List the 4 rules of forcible entry.
- c. Determine the proper method of forcible entry based on type of door.
  - 1. Conventional
    - a. Inward-opening doors
    - b. Outward-opening doors
  - 2. Through-the-Lock
    - a. The police lock
    - b. Mortise locks
    - c. The fox lock
  - 3. Hydraulic forcible entry
  - 4. The Mul-T-Lock Door
  - 5. Forcing Metal Gates and Roll-Up Doors
  - 6. HUD sealed buildings

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 8, pages 201-239
- c. Audio-visual Aids: Instructors' Preference
- d. **Mid-Term Exam**

3. Unit Outline: Refer to Contents, textbook page vii.

I. **Unit Nine:** Chapter 9: Ventilation

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Determine the need for ventilation at an incident.
- b. Describe the different types of ventilation.
  1. Positive or Negative pressure
  2. Vertical or horizontal
- c. Describe the process of ventilation varying roof structures.
  1. Old-style roof construction
  2. The inverted roof
  3. The rain roof
- d. Identify the hazards associated with different types of roof structures.
- e. Explain other considerations and hazards of ventilation.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 9, pages 241-276
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page vii.

J. **Unit Ten:** Chapter 10: Search and Rescue; and Chapter 11: Firefighter Safety and Survival.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Define primary and secondary search.
- b. Describe the role of technology in search and rescue.
- c. Explain emergency maneuvers in breathing apparatus.
- d. Describe the use of guide and rescue ropes.
- e. Describe the Survival Syllabus
  1. Hazard awareness
  2. Escape training
  3. Firefighter accountability – roll calls
- f. Describe Mayday Protocols.
- g. Describe the formation and equipment of a Rapid Intervention Team.
- h. Describe the rescue of firefighters in varying situations.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapters 10 and 11, pages 277-344
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook pages vii & viii.

K. **Unit Eleven**: Chapter 12: Operations in Lightweight Buildings; Chapter 13: Private Dwellings; and Chapter 14: Multiple Dwellings

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
  - a. Describe the trouble with and types of trusses
    1. Bowstring Truss
    2. Lightweight trusses
  - b. Explain the hidden danger of renovated buildings
  - c. Explain operations on lightweight roofs and floors
  - d. Describe the problems associated with fires in single family/private dwellings.
  - e. List the problems inherent to fires in multiple dwellings.
  - f. Differentiate between Duplex, Triplex and Sandwich apartments.
2. Learning Activities:
  - a. Classroom lecture/discussion
  - b. Reading assignments: Chapters 12, 13, and 14, pages 345-402
  - c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page viii.

L. **Unit Twelve**: Chapter 15: Garden Apartments and Townhouse Fires; Chapter 16: Store Fires – Taxpayers and Strip Malls; and Chapter 17: High Rise Office Buildings.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
  - a. List the problems inherent to fires in garden apartments and townhouses.
  - b. Identify the styles of taxpayer structures.
  - c. Describe problems specific to commercial structures.
  - d. Identify different types of high-rise construction.
  - e. Describe problems inherent to fires in high-rise buildings.
  - f. **Twelve-week examination, if one is given.**
2. Learning Activities:
  - a. Classroom lecture/discussion
  - b. Reading assignments: Chapter 15 and 16, pages 403-471
  - c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook pages viii & ix.

M. **Unit Thirteen**: Chapter 18: Buildings under Construction, Renovation, and Demolition; and Chapter 19: Fire Related Emergencies – Incinerators, Oil Burners, and Gas Leaks.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:
  - a. List the unique challenges of incidents in buildings under construction, under renovation, partially occupied structures, and undergoing demolition.
  - b. Describe structural deficiencies in these buildings.

- d. Detail the tactics for inside and outside natural gas leaks and problems inherent in their distribution systems.
- e. Describe the hazards presented by LPG.
- f. Describe the hazards presented by the use of heating oil.
- g. Describe the process of determining the origin of odors or smoke.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapters 18 and 19, pages 473-516
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook page ix.

N. **Unit Fourteen:** Chapter 20: Electrical Fires and Emergencies; and Chapter 21: Structural Collapse.

1. Unit Objectives: Upon successful completion of this unit, the student will be able to:

- a. Describe Electrical Terminology.
- b. Describe electrical power distribution system components.
- c. List the hazards around electrical equipment, especially during fires.
- d. Explain operational procedures during electrical emergencies.
- e. Discussed various electrical emergency situations faced by firefighters.
- f. List the building components liable to collapse.
- g. List the reasons structures collapse.
- h. Define collapse zone.
- i. List collapse indicators.
- j. Establish a collapse zone.
- k. List the types of collapses
- l. Describe rescue operations at a collapse scene.
- m. List the major parts of a collapse rescue plan.
- n. List safety precautions required during collapse operations.

2. Learning Activities:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapters 20 and 21, pages 517-573
- c. Audio-visual Aids: Instructors' Preference

3. Unit Outline: Refer to Contents, textbook pages ix & x.

O. **Unit Fifteen**: Chapter 22: Fire Department Roles in Terrorism & Homeland Security.

1. **Unit Objectives**: Upon successful completion of this unit, the student will be able to:

- a. Define the role of the Fire Service in combating terrorism.
- b. List potential indicators of terrorist activities.
- c. List potential targets for terrorist activities.
- d. Describe the response to a bombing incident as it differs from a routine incident.
- e. List the types of terrorist weapons
- e. Describe operational considerations at:
  1. Bombing incidents
  2. Dirty bombs/radiological incidents
  3. Chemical agent incidents
- f. List operational/command procedures at terrorist incidents.
- g. Describe the determination for and use of defensive operations.

2. **Learning Activities**:

- a. Classroom lecture/discussion
- b. Reading assignments: Chapter 22, pages 575-608
- c. Audio-visual Aids: Instructors' Preference

3. **Unit Outline**: Refer to Contents, textbook page x.

P. **Unit Sixteen**: Final Examination

1. Review, discuss and debate all materials covered and various types and methods for strategies and tactics for complete variety of responses for final examination
2. Administer final examination; grading, discussing test, and assigning final grades may be accomplished during this session.