Written Assignments

FIRE TACTICS
FST-2009

Fire Tactics examines fire department response to structure fires. The purpose of the course is to develop Incident Command skills in analyzing situations (size-up), developing a strategic plan suited to a specific structure fire incident, then commanding and controlling operations in implementing a strategic plan through task assignments (deployment). Risk/Benefit analysis and rate of flow are the two primary methods used to develop strategic plans.

Student Learning Outcomes:
At the end of the course the student shall be able to:

1. Discuss fire behavior as it relates to strategies and tactics
2. Explain the main components of pre-fire planning and identify steps needed for a pre-fire review.
3. Identify the basics of building construction and how they interrelate to pre-fire planning and strategy and tactics.
4. Describe the steps taken in size-up.
5. Utilize information obtained through size up to perform a risk benefit analysis
6. Utilize the risk benefit analysis to determine fire ground strategy and tactics.
7. Examine the significance of fire ground communications
8. Identify the roles of the National Incident Management System (NIMS) as it relates to strategies and tactics.
9. Demonstrate the various roles and responsibilities in NIMS.

The text for the Fire Tactics course is *Structural Fire Fighting*, Second Edition which is available either from the NFPA and or Jones and Bartlett Publications:

Telephone 800-344-3555

Website http://catalogue.nfpa.org

or

MBS Distributors:

Telephone 800-325-3252

FAX 800-325-4147

The *Structural Fire Fighting* text is also available through IFSTA and other book stores. It is assumed that you are familiar with the National Incident Management System (2004). The course text describes the IMS in a general way, but if you are not completely familiar with the IMS you should download and review the National Incident Management System which is available from the following website: http://www.nimsonline.com/docs/NIMS-90-web.pdf.
The National Incident Management System (NIMS) provides the foundation for commanding and controlling the incident. Understanding the Incident Management System is essential to successful course completion. You simply cannot do well in this course without a good basic understanding of the IMS.

**Please do not send multiple assignments in a single mailing**

**It is important to consider remarks from previous assignments when completing the next assignment.**

The grading worksheet used to evaluate the Railroad Warehouse Problem in Assignment #2 follows a format very similar to the one used to grade the two problems in Assignment #3, and the Final Fire Problem is in the same building as one of the problems in Assignment #3.

**Wait until the previous assignment is returned before submitting the next.**

**If multiple assignments are sent together they will be returned without a grade**

**Fire Tactics course assignments tend to be increasingly difficult.**

* The Final Fire Problem takes the place of the typical final examination. You will be given a scenario similar to the ones used in Assignments #2 and #3 for the final. The final problem will use the building identified in the Pre-Plans and the text as the “RGB Building”. You may bring notes, course text or other materials that may be of value, to the final. However, all answers must be placed on the pages provided to you by your proctor at the time of the final. A maximum of four hours is allowed for the final fire problem; you should plan accordingly.

Assignments and examinations should reach me by the due date. If all course work and the final examination have not reached me prior to the end of the quarter, a grade of “SP” (Satisfactory progress) will be submitted. This grade can be changed to the grade earned for the course within one year. However, we do encourage punctuality and award a 5% bonus on the final fire problem for students sending all course papers and the final examination prior to the deadline.

The preferred means of communication, including sending course assignments, is via E-Mail. E-mail saves you postage and provides the shortest turnaround time. My E-Mail address is:

   tlakamp@fuse.net

Avoid using E-Mail that is not private, as you may not want everyone reading my replies. If you send assignments via E-mail expect the reply to be returned via E-mail.

If you find it necessary to send assignments via regular mail send them to my home address:

   Tom Lakamp

   7982 Countfleet Ct.

   North Bend, Ohio 45052
Assignments sent to my university office will invariably be delayed, as I do not visit the office on a daily basis. Narrative portions of mailed assignments must be typewritten. Please double space to allow space for margin notes. Seldom is it necessary to send assignments via Express Mail, Fed X or other overnight delivery systems. If an assignment is a few days late, I will not penalize you in anyway. The only time a few days will make a difference is at the end of the quarter.

My home telephone number is:

513-467-9921

We understand that adult students sometimes encounter difficulties in completing courses, and we are as flexible as possible. Experience indicates that students who procrastinate tend not to finish, or do poorly in the course. It is important to notify me if you are having difficulty, and request a course extension. I need to know your status. Personally, I would rather see high quality assignments arriving a little late than poorly done assignments arriving on time. If you must choose between quality and punctuality, choose quality. With proper time management (an important attribute for a professional) it is possible to deliver high quality assignments within the allotted time.

Assignments take the place of classroom discussions; take home examination, papers and other interaction between the instructor and student. Assignments are designed to demonstrate your mastery of course topics. The Fire Tactics course requires the application of many different concepts in handling and evaluating fire scenarios. Written assignments and the final fire problem are the only means available to evaluate your level of understanding. Application of course material is essential. You may have an opinion that conflicts with course concepts. Feel free to state your opinions, but grades will be based on your ability to apply the concepts presented in the Structural Fire Fighting text.

Written Assignments are based on the “Suggested Activities” at the end of each section of the Structural Fire Fighting text and fire problems/scenarios provided. I will send you scenarios and other files needed to complete the course either on a CD via snail mail or will post them on Blackboard. Some of the questions are also on the CD or Blackboard. When using the assignment files the reply can be copied to another disk and sent via E-Mail in a format compatible with Word For Windows (rich text files work well), or the answers can be printed from the disk to hard copy and mailed to my home address.

Information supplementing the Suggested Activities is included with this assignment packet to further explain the requirements of each question. The final examination is not the typical multiple choice or fill-in type examination. Instead a fire problem is used to replace the typical final exam. The fire problems and grading worksheets used for the second and third assignments provide practice for the final.

Each of the three (3) written assignments will count as 25% of your grade for the Fire Tactics course. The final fire problem will make up the remaining 25%.
Allow sufficient time to gather information and complete the assignment. This course allows you to work at your own pace, and is therefore slightly more efficient than the classroom, but an allotment of nearly 150 hours is appropriate. Experience also plays a role in time expenditure. You will not be able to complete this course without basic firefighter training. If your fire ground experience is minimal, expect to spend more time. Conversely, if you have wide experience as an Incident Commander less time will be needed especially for Assignments 2 and 3.

High quality, professionally written assignments are expected. It is best to read the appropriate assignment questions and supplemental information prior to reading the course text. Take notes and outline an answer to the questions as you read. Formulate a draft answer for each question. In general, the more drafts, and subsequent revisions, the better the answer!

All narrative answers must be typewritten and double-spaced. Charts, drawings and other graphic components must be neatly done using a straight-edge or preferably using drawing software. Appearance, grammar, spelling and sentence structure are considered in grading papers. Proofread your assignment. Grammatical errors reflect the professionalism of the fire service to those reading your work! Most important, apply course material in your answers.

All assignments must have a cover page, and each question must be identified by Assignment #, Question # and sub-section letter, e.g. “Assignment 1, Question 1 A.” The number one reason for a loss of points on assignments is failing to completely answer questions. Some questions have several components, be sure to address every component of every question. Listing an answer as N/A (not applicable) will result in the loss of points assigned to that part of the question. Please number the pages of your assignment.

As your course instructor I will be extremely critical in making comments and grading. Please recognize that it is the instructor’s responsibility to provide feedback, and written constructive criticism is one of the few means available in a Distance Learning course.

I will make every attempt to evaluate and return your paper within one week of receipt. I recognize the importance of prompt turnaround, as you should use feedback as a method of reinforcing your answering techniques, and improving future assignments. There is a slight chance of mail being lost; therefore you should retain a backup copy of your assignments before mailing either via snail mail or E-mail.

E-Mail is acceptable and preferred for assignments and communications. Rich Text Files, or files readable by Word for Windows are best. Files sent over the Internet are sometimes modified, coded or compressed by your Internet service provider. Some service providers limit the number or size of files being sent. Graphic files are particularly problematic when sent via the Internet. If you are sending a large graphic file, economize on the size of the file and send it as a separate attachment with the file type listed in the main body of the E-Mail message, e.g. Pre-Incident Plan drawing attached as a (.gif) file. If files are sent via E-Mail, I will first check to be sure the files are readable, and notify you that the assignment has been received. The quick turnaround time and postage saved using E-Mail is beneficial, so if you have a personal E-Mail account, by all means use it for course assignments and other communications with me. If your account is not completely confidential please do not use E-Mail, as you may not want to share my comments with others.
If you are inexperienced and lack basic firefighter training please call me immediately!

This course is not for you!
Assignment #1 (Chapters 1-3)

Assignment #1 requires you to answer all or part of the eight questions in the Suggested Activities for *Structural Fire Fighting*. Each question has multiple parts. Be sure to answer all parts of each question. The table below shows the percentage value (weight) for each of the eight questions in Assignment #1. Additional information is included in “Supplemental Information” on the following pages. **Be sure to read the supplemental information as you prepare to answer each question.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Percentage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 A, B, &amp;C</td>
<td>IMS Organization Chart and Company Activities for three Single Family Dwelling Fires (Page 30)</td>
<td>10%</td>
</tr>
<tr>
<td>2 Page 30</td>
<td>IMS Organization Chart and Company Activities for a Large Warehouse Fire (Fire on 2nd Floor)</td>
<td>10%</td>
</tr>
<tr>
<td>3</td>
<td>IMS Organization Chart Warehouse Fire with Exposures (Pages 30-31)</td>
<td>15%</td>
</tr>
<tr>
<td>4</td>
<td>Analyze Department SOP’s Attach Copy of Structural Fire Fighting SOP (Q-1, Page 73)</td>
<td>10%</td>
</tr>
<tr>
<td>5</td>
<td>Parameters of Pre-Incident Planning (Q-2, Page 73)</td>
<td>5%</td>
</tr>
<tr>
<td>6 A &amp; B Only</td>
<td>Pre-Incident Plan (narrative and drawing) (Q-3, Page 73)</td>
<td>20%</td>
</tr>
<tr>
<td>7</td>
<td>Risk Benefit Analysis/Strategic Plan Kemper Ln., 3rd St., &amp; Restaurant Scenarios (Q-1, Page 92)</td>
<td>20%</td>
</tr>
<tr>
<td>8</td>
<td>Evaluate Risk Benefit Analysis/Strategic Plan Wood Truss Roof Collapse Report</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

This list can also be used as a checklist to be sure you have completed all eight questions for the assignment.
Assignment 1:

**Assignment 1, Question #1 A, B, &C**

A. **Chapter 1 “Suggested Activities” question #1 on page 30:** This simple IMS chart should show each of the three companies and battalion chief. Companies can be listed as Engine 1 (first arriving engine), etc. The company assignments should be the way you think units should be deployed, not necessarily the way your department deploys them.

B. Develop a simple IMS chart and explain the company assignments for the following scenario:

*(The CD contains a PowerPoint of this scenario)*

Building:

2-story wood frame single-family dwelling

Time:

0200

Fire:

Fire is located only in the kitchen at this time and venting from a first floor “C” side window. Smoke is throughout the structure.

Using your department’s response criteria (Use the number of units and manpower your department would dispatch to this type of occupancy) deploy the companies using specific and detailed instructions. (This example does not apply to this scenario!!)

“E-4 (4-FF’s) establishes a 5” water supply and proceeds to the fire building. Apparatus is placed on the A/B corner – not blocking the front of the structure. 3 members of E4 advance a 1 ¾” attack line to the basement to check for fire extension. Driver remains with apparatus.”

Request as many units as you would need to complete the necessary tasks. (Use your own mutual aid or alarm assignments)

C. You are dispatched as the Battalion Chief to a one-alarm fire at 2200 hours for a single-family dwelling. *(The CD includes a PowerPoint of this scenario)*

First Alarm Assignment: 2 Engines, 2 Trucks, 2 BC’s, 1 RIT Truck, 1 Heavy Rescue, 1 ALS Ambulance.

(All fire companies are staffed with an officer, driver and two firefighters)

You arrive on the scene at the same time as Engine 1 and observe smoke and flames from the garage portion of the dwelling. (See picture and scenario on CD)

- Deploy units on the first alarm with specific assignments and locations.
- Create an IMS chart of the incident
- Discuss your attack strategy (Offensive/Defensive) and the location of the initial attack. (Why did you initiate the offensive or defensive attack? What are the risks and benefits?)

**Assignment 1, Question #2 (Page 30)**
- The fire is on the second floor.
- In Part A list the companies and their assignments, e.g.
  - Engine 1 - Second Floor Extinguishment
  - Engine 2 - Second Floor Extinguishment
  - Truck 1 - Vent Roof (2 person crew) Second Floor Search and Rescue (2 person crew)
- In Part B show each company listed in Part A on an IMS organizational chart. Sector the operation if necessary, and show any IMS, Command staff, General staff or Operations Section subordinate assignments (Branch, Division, Group, Task Force, Strike Team). Only show the positions that are staffed. If the Liaison Officer position is not staffed do not show it. (Pay attention to IMS hierarchy)

**Assignment 1, Question #3 (Page 30-31)**
- Use Figure I.1 on page 30. You are simply developing an IMS chart for this operation. **Do not change company assignments.** Assume that you have chief officers to fill any of the command staff, general staff or Operations Section subordinate units necessary. The answer to this question should include an Incident Management System chart showing all Command Staff and General Staff indicating whether they are retained by the Incident Commander or who is staffing each position, as shown on the next page.

- Under the Operations Section, sector the operation using Branches, Groups, Divisions, Task Forces and Strike Teams showing how many companies are reporting to each. Maintain a reasonable span of control, and use an intuitive naming system. I should be able to determine the area each supervisor is responsible for by looking at the name of the task force, strike team, division, group or branch.
- It is sometimes best to use more than one chart due to the size and complexity of this operation. Trying to fit everything onto one page can be a challenge. One way to alleviate this problem is to show the upper hierarchy of the Incident Management System (Incident Commander, Command Staff and General Staff) on one page, and the Operations Section (even if it is not staffed) with subordinate units on a second page.
Assignment 1, Question #4

Chapter 2 “Suggested Activities” question #1 on page 73:

Assignment 1, Question #5

Chapter 2 “Suggested Activities” question #2 on page 73:

Use a table similar to the one below to list the kinds of occupancies within your jurisdiction and to indicate whether the property should be pre-planned and the numerical priority, e.g. 1st Priority, etc.

You are expected to give a BRIEF explanation (as shown in table 2-2) as to why you are pre-planning these structures and explain your priority, e.g. High Rise Residential first priority due to large life hazard and difficult high rise operation. High Rise Office building (second priority) has large life hazard, but people are aware and the building is only occupied during normal working hours.

Assignment 1, Question #6

Chapter 2 “Suggested Activities” question #3 on page 73:

The building being pre-incident planned should be marked as “Yes” on the table you provided in Question #5 and have an undivided (open) area of at least 50,000 cubic feet.

Show the dimensions (length, width and height) of undivided areas over 50,000 cubic feet on your pre-incident plan drawing or list the dimensions in the narrative. I need to know the dimensions of large undivided areas with an accuracy of (+) or (-) 5 feet.

Provide photographs of the building showing all four sides.

This could be two photographs from opposite corners of the building.

The narrative component of the pre-plan should be very similar to the example shown on pages 46, 47 and 48 (Figure 2-7) of the text. (Do not simply send an existing pre-plan) Be sure to include each of the topics shown on the example, e.g. Emergency Contact, Occupancy, Life Safety, etc. At this point you are not expected to be able to calculate the rate of flow, which is covered in Chapter 8. For now, rate of flow can be left blank to be filled in later.

The drawing should be similar to the one shown in Figure 2-18 (page 75) but would preferably take up an entire 8½ X 11 sheet of paper and include street and hydrant locations, as well as nearby (100’ or less) exposures with distances to the exposures. The end product (drawing and narrative) should be useful to the Incident Commander at the scene of an emergency.

Use the attached Size-Up Worksheet to answer Question 6a. Place an “X” next to information included in your pre-plan and yellow highlight items that could not be known in advance. Use a different color highlighter to indicate items that could be partially known in advance.
Size-Up Worksheet

Question 6a

Place an “X” to the left of items covered in your pre-plan

Use a yellow highlighter to highlight the items that cannot be known in advance of the fire.

Use another color highlighter to highlight items that can be partially known in advance.

Life Safety

Structural stability
Collapse zone
Probability of extinguishment
Building complexity and layout
Adherence to SOP’s (use of SCBA’s etc.)
Organization & coordinated operation
Primary and alternative egress routes
Accountability & rapid intervention
Smoke and fire conditions
Occupancy type
Evacuation status
Estimated number of people in the building
Occupant proximity to fire
Mobility of occupants
Awareness of occupants
Occupants’ familiarity with building
Rescue options (stairs, ladders, others)

Staffing needed to complete primary search and rescue

Staffing needed to complete secondary search and rescue

Medical status of occupants

**Extinguishment**

Offensive/defensive

Automatic suppression equipment (sprinkler, deluge, other)

Manual suppression equipment (standpipe)

Water supply

Pump capacity

Rate of flow (we will learn to calculate this later. It can be known in advance)

Number and size of hose lines needed for extinguishment

Additional hose lines needed

Staffing needed for fire lines

Internal exposures

External exposures

Ventilation status

**Property Conservation**

Salvageable property

Location of salvageable property

Susceptibility of property to water damage

Susceptibility of property to smoke damage

Damage resulting from entry and ventilation

Water pathways to salvageable property

Salvage methods available

Alternative water removal methods
**Structure**

- Signs of collapse
- Construction type
- Roof construction
- Previous damage
- Live and dead loads
- Water load
- Accessibility
- Extension probability
- Fuel load of the structure (walls, ceilings, support members, etc.)
- Age
- Height and area
- Location of large undivided areas
- Enclosures and fire separations
- Exit facilities

**Resources**

- Staffing needed vs. staffing available
- Additional staffing available (on-call, on-duty or mutual aid)
- Staffing available in staging
- Apparatus needed vs. apparatus on-scene
- Additional apparatus available (on-call, on-duty or mutual aid)
- Additional apparatus available in staging
- Water supply needed vs. water supply available
- Special resource needs
### Time

- Time of day
- Day of week
- Time of year
- Special (e.g. Holiday Season)

### Weather

- Temperature
- Humidity
- Precipitation
- Winds

---

**In Question 6b simply list the SOP’s that your department has that would be in effect for the building you pre-plan.**

---

**Assignment 1, Question #7**

**Chapter 3 “Suggested Activities” question #1 on page 92:**

The Kemper Lane, 3rd Street and Restaurant PowerPoint scenarios are included on the CD that was mailed to you. General information is also included in the folder on the CD. They are needed to complete this assignment question.

Answer each question (“a” through “f”) for all three scenarios.
Assignment 1, Question #8 (Page 92)

Download and read the U.S. Fire Administration Report “Wood Truss Roof Collapse Claims Two Firefighters, December 26, 1992”. Answer “a” through “f” in Question #7 of the text again.

The USFA Technical Report 069 Wood Truss Roof Collapse Claims Two Firefighters (December 26, 1992) is available at www.usfa.fema.gov From this home page select Publications on the left side of the screen, go to the bottom of the “Publications” screen and select Shop for Publications, from the “Shop for Publications” screen select Health and Safety. You will need the program “Acrobat Reader®” to open this file. The “Acrobat Reader®” program is available through a link on the USFA home page www.usfa.fema.gov and is free. This article is also available on Blackboard.

Before you mail the assignment:

⇒ Return to beginning of the Assignment #1 instructions and check to be sure you have an answer for each question
⇒ Compare your answers to the questions in the text to be sure you have an answer for each part of each question
⇒ Review and revise your answers

While you are waiting for the graded Assignment #1 to be returned, continue to read the text. You will need to read several large chapters to complete Assignment #2.
Assignment #2 (Chapters 4-9)

Assignment #2 requires you to:

- Answer the questions listed below in the Suggested Activities of Structural Fire Fighting.
- Complete the Railroad Warehouse Fire Problem

Each question has multiple parts. Be sure to answer all parts of each question. The table below shows the percentage value (weight) for each of the five questions and fire problem in Assignment #2. Additional information is included in “Supplemental Information” on the following pages.

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Percentage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>II-1</td>
<td>Firefighter Safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kemper Ln. Scenario (Text Question 1 - page 201)</td>
<td>15%</td>
</tr>
<tr>
<td>II-2</td>
<td>Life Safety Operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kemper Ln. Scenario (Text Question 2 – Page 202)</td>
<td>15%</td>
</tr>
<tr>
<td>II-3</td>
<td>Response Time vs. Survivability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local Pre-Incident Plan</td>
<td>15%</td>
</tr>
<tr>
<td>II-4</td>
<td>Rate of Flow/Offensive Extinguishment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local Pre-Incident Plan (Text Question 11 – Page 228-229)</td>
<td>15%</td>
</tr>
<tr>
<td>II-5</td>
<td>Rate of Flow/Defensive Extinguishment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local Pre-Incident Plan (Text Question 11 – Page 228-229)</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Fire Problem in Railroad Warehouse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Size-Up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop a Strategic Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Note: It is best to complete fire problems during a single study session, as all of the fire problem components are interrelated.</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Assignment #2

Supplemental Information

Question II-1

Chapter 4 “Suggested Activities” question #2 on page 102:

A template of this question is available for your use on the CD. You should be able to open the file to a floppy or your hard drive then place your answers in the space provided.

Use the Kemper Ln. Scenario on the CD to answer the questions posed in Question Part II-1. Be sure to repeat and completely answer every question. (Answer the questions on the CD template)

Question II-2

Chapter 6 “Suggested Activities“ question #1 on page 166:

A template of this question is available for your use on the CD. You should be able to open the file to a floppy or your hard drive then place your answers in the space provided.

Use the Kemper Ln. Scenario on the course CD to answer the questions posed in Question Part II-2. Be sure to repeat and completely answer every question.

Question II-3

Place your answer after each sub-topic in bold print. Template available on CD.

3. Use the problem based on your pre-incident plan to answer this question.

The objective of this activity is to compare response time to the probability of occupant survival in the compartment of origin, thereby gaining a better understanding of the variety of conditions that effect life safety operations. It is important to remember that time and current conditions serve only as “predictors” of future conditions. However, the various factors considered are all known to effect life safety, and are therefore important to the incident commander.

Answer Questions II -3 A, B, & C.
**Question 3A** - Determine response time for first arriving units by estimating the alarm, dispatch and turnout times based on your department’s experience.

⇒ Use the information given in the scenario to determine the **alarm time**. Allow a reasonable time from ignition if the fire is well involved when discovered. Also consider any delay in notifying the fire department given as part of the scenario.

<table>
<thead>
<tr>
<th>Minutes Ignition to Discovery (estimate based on extent of involvement when discovered)</th>
</tr>
</thead>
<tbody>
<tr>
<td>________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minutes from discovery until alarm is called in to dispatch</th>
</tr>
</thead>
<tbody>
<tr>
<td>________________</td>
</tr>
</tbody>
</table>

_____ Minutes **Alarm Time** (this should be equal to the sum of the two components of Alarm Time above)

⇒ Average dispatch times can sometimes be obtained from the local dispatch center, but **use the dispatch time given in the scenario**.

_____ Minutes **Dispatch Time**

⇒ If possible, use the actual turnout time for your department. Some departments track this time, while others do not. If the local average times are available use them. Otherwise, use the following guidelines:

♦ A reasonable daytime average turnout time for a fully staffed fire station is one minute

♦ A reasonable night time average for a fully staffed fire station is two minutes

♦ For volunteer or on-call stations add the time necessary to respond to the station based on experience.

_____ Minutes **Turnout Time**

• Measuring the distance and estimating the travel time for the first arriving units
  ⇒ a generally accepted **average** for travel speed is 35 MPH
  ⇒ in congested areas or on narrow streets reduce the speed
  ⇒ where major highways are used outside urban areas increase the speed. (the maximum average safe speed for fire apparatus is 55 MPH)

_____ Minutes **Travel Time**
• estimating the set-up time for the first arriving engine company

⇒ Set-Up time for the first-in unit should be based on extending a standard attack line to the fire. You may be able to evaluate training records to estimate this time, or use the general numbers from the O’Hagan Staffing Levels report referenced in this section. In this reference O’Hagan timed crews of 3, 4 or 5 firefighters with the crew of three waiting for the hydrant person to make entry. Working from an attack pumper, set-up time with three firefighters would result in the same interval as the four firefighter measurement in the study. Times indicated in the study are:

<table>
<thead>
<tr>
<th>Crew Size</th>
<th>Time in Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (securing water supply)</td>
<td>240</td>
</tr>
<tr>
<td>3 (Attack Pumper)</td>
<td>202</td>
</tr>
<tr>
<td>4 (securing water supply)</td>
<td></td>
</tr>
<tr>
<td>5 (securing water supply)</td>
<td>171</td>
</tr>
</tbody>
</table>

These times do not include personnel assigned to a rapid intervention team. Applying the two-in/two-out rule will often requires additional personnel.

If your scenario involves getting a line to upper floors allow additional time. (Approximately 30 seconds per floor if pulling hose, and 10 seconds per floor if walking the stairs with a high rise pack).

_______ Minutes Set-Up Time

• repeat the distance and travel time measurements for all other responding units. This provides a time line for completing necessary tasks other than fire suppression, e.g. search and rescue assignments to the various floors.

Total Response time (Alarm to completion of Set Up for first arriving Engine) ________________ Minutes

Question 3B - Compare the large open area in your pre-incident plan to the smaller areas normally found in residential properties.
**Question 3C** - Discuss the relationship of flashover to fire department arrival time.

- How does this relationship affect the occupants?
- How does this relationship affect the firefighter?
- How does this relationship affect tactics?

**Question II-4 & 5 (Pages 228-229)**

**Chapter 8 “Suggested Activities” question #11 on page 228-229:**

Templates for these questions are available for your use on the CD. You should be able to open the file to a disc drive or your hard drive then place your answers in the space provided. I will use the information and pre-plan from Question #6 of Assignment #1 to develop a fire problem that will be used to answer these three questions. *(Use Template)*

Return the Pre-Incident Plan, Size-Up Worksheet and any information I provided for this problem.

Be sure to answer every question, and include the question prior to your answer.
**Railroad Warehouse Scenario**

The Railroad Warehouse Scenario contains the Middle City Pre-Plan, Railroad Warehouse Pre-Plan and fire conditions. The CD contains the size-up, strategic plan, and deployment worksheets for the Railroad Warehouse Fire Problem.

Take the position of Incident Commander: This fire problem requires you to:

- **Size-up the situation by listing all of the pertinent points under the various sub-titles on the CD, which repeats the factors, listed on pages 60 and 61 in the text.** Be sure to include the importance of each factor (examples on RRWarehouse.doc). The size-up should be based on the situation and conditions when you arrive to take command of the incident.

- **Calculate rate of flow for the fire as it exist at the present time using the A/3 formula.**

- **State whether your operation is offensive or defensive**

- **State the Strategic Plan as a series of short objectives, e.g.**
  - Search and Rescue on 4th floor,
  - Extinguish fire on the 3rd floor using 2 ½” lines,
  - Property conservation on 2nd floor

- **Assign Companies (deployment) to perform the tasks necessary to carry out the strategic plan. Include water supply, their location, list hose lines, e.g.**
  - **Engine #1 - Forward Lay 5” hose from 3rd and Main, advance a 1 ¾” line with 7/8” smooth bore nozzle to the 5th floor.**

- **Task Assignments (deployment) should include safety considerations, such as assignment of a Rapid Intervention Crew, Safety Officer, Accountability Officer, etc.**

- **Organize the operation using the Incident Management System; show all sections, sectors, branches, command staff and companies on the Incident Management System chart.** Show all positions, but only staff the positions required for the incident. Non-staffed IMS positions should be labeled “Retained”.

A grading worksheet similar to the one used to grade the Assignment #3 fire problems and the final will be used to evaluate your operation. This question should provide good practice for the remaining assignment and final fire problem. **Answers to questions should be printed out if sent by regular mail or be sent as an attached file if sent by E-Mail.** This is the only fire problem where the rate of flow will not be included in the pre-incident plan, and thus the only fire problem using the A/3 formula. While response times are not calculated for this fire, remember that units will take time to arrive. Therefore, it is essential that you prioritize assignments. You might want to time yourself, as you will be given four hours total to handle a more difficult problem on the final.
Assignment #3 (Chapters 10-12)

Assignment #3 requires you to handle two fire problems:

- Cheapside Office/Hotel Fire Problem
- RGB Fire Problem

The table below shows the percentage value (weight) for the two fire problems in Assignment #3.

<table>
<thead>
<tr>
<th>Question</th>
<th>Description</th>
<th>Percentage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheapside Office/Hotel Scenario</td>
<td>Fire Problem Cheapside Office/Hotel</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Size-Up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop a Strategic Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMS</td>
<td></td>
</tr>
<tr>
<td>RGB High Rise Fire Scenario</td>
<td>Fire Problem RGB Office High Rise</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Size-Up</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Develop a Strategic Plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deployment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Rise Tactical Worksheet</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

The Fire Scenarios contain the information needed to complete the assignment. Files containing the size-up, strategic plan, and deployment worksheets for both fire problems are available on the CD.
Take the position of Incident Commander: These fire problems require you to:

- Size-up of the situation by listing all of the pertinent points under the various sub-titles from the CD, which repeats the factors listed on pages 60 and 61 in the text.
- State whether your operation is offensive or defensive
- State the Strategic Plan as a series of short objectives, e.g. Search and Rescue on 4th floor, extinguish fire on the 3rd floor using 2 ½” lines, etc.
- Assign Companies (deployment) to perform the tasks necessary to carry out the strategic plan. Include water supply, their location, list hose lines, e.g.

  Engine #1 - Forward Lay 5” hose from 3rd and Main, advance a 1 ¾” line with 7/8” smooth bore nozzle to the 5th floor.

- Task Assignments (deployment) should include safety considerations, such as assignment of a Rapid Intervention Crew, Safety Officer, etc.
- Organize the operation using the Incident Management System; show all sections, sectors, branches, command staff and companies on the Incident Management System chart. Show all positions, but only staff the positions required for the incident. Non-staffed IMS positions should be labeled “Retained”.
- Fill out the High Rise Tactical Worksheet for the RGB Problem

A grading worksheet similar to the one used to grade the final will be used to evaluate your operations. The RGB Problem should provide particularly good practice for the final fire problem which is in the same RGB Building. **Answers to questions should be printed out if sent by regular mail or be sent as an attached file if sent by E-Mail.** You might want to time yourself, as you will be given four hours total to handle a more difficult problem on the final.
Preparation for the Final

If you live in the Greater Cincinnati area you should go to the University of Cincinnati, OCAS campus on Victory Parkway to take the examination. Call our office at 513-556-6583 to set up a time to take the examination. If you live elsewhere, please return a Proctor Form with Assignment #2 if you have not provided proctor information to the college prior to the start of this academic quarter so the materials for the final examination can be mailed to your proctor. You will need to set up a mutually acceptable time with your proctor to take the final.

The RGB High Rise building will be used for the final examination. The RGB problem from Assignment #3 should be very helpful in preparing for the final. There is also another RGB problem with an answer key (pages 395 to 407) in the Structural Fire Fighting text. The final is open book/open note. You are permitted to bring marked up fire problems and/or grading worksheets to the Final. A Pre-Plan for RGB will also be included in the material sent to your proctor. In addition, your proctor will have a fire conditions packet listing the location of the fire, fire intensity, a chart listing company actions taken prior to your arrival, weather conditions, and other variables that cannot be known until a fire occurs.

Instructions to the proctor allow a maximum time of four hours to complete the fire problem. You may bring the text, and notes to the final, but all answers must be handwritten on the worksheets provided by your proctor. Attached sheets are not permitted.