



AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus

SECTION 1 - Introduction

Topic 1.1- Introduction to AVTEC

Lecture: 0.25 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Be familiar with AVTEC policies.2. Be familiar with the training facility layout, including: heads, scuttlebutts, maritime main office, student lounge, emergency egress and muster station, fire extinguishers, business office.3. Know where the first aid kit and AED is located.	<ol style="list-style-type: none">A. Reference Materials:B. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and MonitorC. Student Training Aids:

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AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 1 - Introduction

Topic 1.2- Introduction to Shipyard Competent Person

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Discuss the purpose of a Shipyard Competent person.2. Know the safety factors and hazards associated with shipyards and vessels.3. Understand and be able to locate 29 CFR 19154. Know the employers responsibilities pertaining to Shipyard Competent Persons.5. Understand the relationship between the Shipyard Competent Person, Certified Marine Chemist, Certified Industrial Hygienist, and the Coast Guard Authorized Person.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915.72. 29 CFR 1915 Subparts B, C, D, & H3. NFPA 306 Standard for the Control of Gas Hazards on Vessels4. Case Studies <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor3. "Remember Charlie" youtube video <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 2 – Hazard Description and Recognition

Topic 2.1- Terminology, Fire and Explosion Theory

Lecture: 0.25 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know the terminology that a Shipyard Competent Person will need to know.2. Understand the fire triangle and the fire chemical reaction.3. Know the difference of flammable and combustible parameters.4. Identify UEL and LEL levels of a product.5. Able to discuss the classifications of fuels as identified by USCG and NFPA.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 19152. NFPA 306 Standard3. Marine Fire Fighting; Int'l Fire Service Training Association4. Chemical Data Guide; USCG <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 2 - Hazard Description and Recognition

Topic 2.2- Shipboard Structures, Locations and Systems

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Describe layouts of a vessels tank arraignment.2. Know the different types of tanks on a vessel and which are more volatile.3. Understand some of the obstacles associated in a vessels tank arrangement.4. Know the pipe runs, supports, brackets, and framing uses and locations.	<ol style="list-style-type: none">A. Reference Materials:<ol style="list-style-type: none">1. Tanker Operations; Mark HuberB. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor3. Ferry Inboard ProfileC. Student Training Aids:

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 2 - Hazard Description and Recognition

Topic 2.3- OSHA and Maritime Standards

Lecture: 0.25 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Understand the interrelationship between OSHA and the USCG as it pertains to Shipyard Competent Persons and their duties.2. Able to find the regulations and standard that OSHA oversees concerning ship and repair yards.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915, Subpart Z2. Shipyard Industry Standards; OSHA Booklet3. Maritime Industry Publications; OSHA <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 2 - Hazard Description and Recognition

Topic 2.4- Toxicity and Industrial Hygiene Concepts

Lecture: 0.5 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Understand the environmental hazards and substances that the student might come upon.2. Describe what industrial hygiene is.3. Know the three types of controls.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. Chemical Data Guide; USCG2. NFPA 306 Standard3. Shipyard Industry Standards; OSHA Booklet4. Industrial Hygiene; OSHA <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 2 - Hazard Description and Recognition

Topic 2.5- Safety Data Sheets/GHS

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Understand that the Safety Data Sheets (SDS) are the former Material Safety Data Sheets (MSDS).2. Know what the Globally Harmonized System (GHS) is and its purpose.3. Navigate the 16 sections of the SDS.4. Understand what the Hazard Communication Standard is for.	<ol style="list-style-type: none">A. Reference Materials:<ol style="list-style-type: none">1. Hazard Communication Standard; Safety Data Sheets; OSHA2. A Guide to the Globally Harmonized System of Classification and Labeling of Chemicals; United NationsB. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor3. SDS exercise sheetsC. Student Training Aids:<ol style="list-style-type: none">1. Safety Data Sheet exercise

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 3- Hazard Evaluation and Measurement

Topic 3.1- Hazard Evaluation

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Understand the hazards that an enclosed or confine space will have.2. Know what other adjacent areas would need evaluating if hot work is involved.3. Describe some of the sources available to the Shipyard Competent Person for evaluating a particular space	<ol style="list-style-type: none">A. Reference Materials: B. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor C. Student Training Aids:

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 3- Hazard Evaluation and Measurement

Topic 3.2- Types of Hazardous Areas

Lecture: 0.5 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know that open areas can be as hazardous as sealed areas.2. Understand that there can be various tank configurations.3. Know the definition of a confine space.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915, Subpart B2. NFPA 306 Standard3. Tankerman Operations, Mark Huber4. NFPA Fact Sheet: Marine Industry & Shipyard Confine Space Entry & Work <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 3- Hazard Evaluation and Measurement

Topic 3.3- Prepping Confined Space for Testing

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know how to properly open tanks and use precautionary boundaries.2. Understand some of the supplementary safety forms that might be needed.3. Describe what is needed to be done once spaces are opened.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915.122. NFPA 306 Standard3. Tanker Operations; Mark Huber <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 3- Hazard Evaluation and Measurement

Topic 3.4- Hazard Measurement

Lecture: 0.5 Exercise: 1.25

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know the testing parameters of a gas analyzer.2. Describe what needs to be done to the tank prior to and post testing.3. Understand what the test results mean.4. Know the proper times to retest.5. Be familiar with the test forms and how to properly fill them out.6. Know how and when to follow the Certified Marine Chemist (CMC).	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915, Subpart B2. NFPA 306 Standard3. Honeywell Gas Analyzer Manual; Honeywell4. Tankerman Operations; Mark Huber <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p> <ol style="list-style-type: none">1. Honeywell gas analyzer2. Shipyard Competent Person log sheet

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination

Topic 4.1- OSHA Regulations and NFPA 306 Standards

Lecture: 0.5 Exercise 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Describe the 29 CFR 1915 and NFPA 306 Standard.2. Know the scope and application of both 29 CFR 1915 and NFPA 306 Standard.	<ol style="list-style-type: none">A. Reference Materials:<ol style="list-style-type: none">1. 29 CFR 1915, Subparts B, C, D, and H2. NFPA 306 StandardB. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and MonitorC. Student Training Aids:

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination

Topic 4.2- Responsibilities of the SCP and CMC

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know the responsibilities of a Shipyard Competent Person (SCP).2. Know the responsibilities of a Certified Marine Chemist (CMC).3. Understands which regulatory body each comes under.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915.72. NFPA 306 Standard <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.3- Lock Out/Tag Out

Lecture: 0.5 Exercise: 1.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know what the purpose of lock out/tag (LOTO) out is for.2. Describe the different types of energy and sources that LOTO is intended.3. Understand the types of devices that are used for securing equipment.4. Know what information is needed on a LOTO form.	<ol style="list-style-type: none">A. Reference Materials:<ol style="list-style-type: none">1. 33 CFR 142.902. 29 CFR 1910.1473. 29 CFR 1915.89B. Instructor Training Aids:<ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and MonitorC. Student Training Aids:<ol style="list-style-type: none">1. Lock Out/Tag Out form

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.4- Control of Ignition Sources

Lecture: 0.5 Exercise: 0.0

LEARNING OBJECTIVES

Upon successful completion of this topic the trainee will be able to:

1. Know what type of ignition sources are present in a confine or enclosed space.
2. Understand the engineering controls to mitigate an ignition.
3. Describe the inerting process.
4. Know what gas freeing means and where it is used.

TRAINING MATERIAL REQUIRED

A. Reference Materials:

1. Marine Fire Fighting; Int'l Fire Service Training Association
2. Confine Space Rescue Technician Manual; CMC Rescue, Inc
3. Tanker Operations; Mark Huber

B. Instructor Training Aids:

1. White boards and markers
2. Power Point Presentation and Monitor

C. Student Training Aids:

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.5- Ventilation Theory and Application

Lecture: 2.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Understand the two types of ventilation.2. Know the amount and duration of ventilating.3. Describe some of the obstacles that deter proper ventilating.4. Understand the safety factors involved with the process.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. Tanker Operations; Mark Huber2. 29 CFR 1915, Subpart B and D <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.6- Respirator Protection and Key Aspects

Lecture: 0.5 Exercise: 0.25

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Describe the three types of air supplied respirators.2. Understand the Respirator Protection Program in CFR 1910.134(c).	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1910.1342. 46 CFR 197.550 <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.7- Fire Watch

Lecture: 1.0 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Know the training needs of a Fire Watch.2. Identify the hazards that need watching.3. Understand what Stop Work Authority means.4. Know the type of equipment a Fire Watch uses.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. 29 CFR 1915.5042. 29 CFR 1915.508(e) <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p>

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.8- Written Shipyard Competent Person Records

Lecture: 0.5 Exercise: 1.0

LEARNING OBJECTIVES

Upon successful completion of this topic the trainee will be able to:

1. Know what reports and logs are needed.
2. Understand the document retention schedule.
3. Know where the Certified Marine Chemist certificate is to be posted.

TRAINING MATERIAL REQUIRED

A. Reference Materials:

1. 29 CFR 1915.7(d)
2. Confined Space Rescue Technician Manual; CMC Rescue, Inc.
3. NFPA 306 Standard

B. Instructor Training Aids:

1. White boards and markers
2. Power Point Presentation and Monitor

C. Student Training Aids:

1. Shipyard Competent Person Log
2. Confine Space Entry Permit

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.8- Written Shipyard Competent Person Records

Lecture: 0.5 Exercise: 1.0

AVTEC Maritime- Shipyard Competent Person- Detailed Teaching Syllabus -

SECTION 4- Hazard Prevention, Control and Elimination
Topic 4.9- The Certified Marine Chemist Certificate

Lecture: 0.5 Exercise: 0.0

LEARNING OBJECTIVES	TRAINING MATERIAL REQUIRED
<p>Upon successful completion of this topic the trainee will be able to:</p> <ol style="list-style-type: none">1. Describe the purpose of the certificate2. Know what the contents of a CMC certificate is.3. Understand the responsibilities of maintaining the conditions that the CMC states.	<p>A. Reference Materials:</p> <ol style="list-style-type: none">1. NFPA 306 Standard, Chapter 82. 46 CFR 91.50-1 & 176.710 <p>B. Instructor Training Aids:</p> <ol style="list-style-type: none">1. White boards and markers2. Power Point Presentation and Monitor <p>C. Student Training Aids:</p> <ol style="list-style-type: none">1. Certified Marine Chemist certificate