

## INDUSTRIAL FIRE SAFETY COURSES 2022

Title	Course Dates			Course Fee** (inclusive of 7% GST)
<b>Fire Patrollers (1 day)</b>  <i>Please note that the places for the course are limited and allocated on a first-come-first-serve basis.</i>	5 & 13 Jan* 9 & 17 Feb* 2 & 18 Mar 6 & 11 Apr	5 & 10 May 1 & 8 Jun 1 & 6 Jul 1 & 4 Aug	1 & 12 Sep 5 & 28 Oct 1 & 7 Nov 1 & 7 Dec	\$363.80

\*Fully booked

To apply for the Fire Patrollers course, please complete the application form at <https://go.gov.sg/saa-industrial-courses>. For enquiries, please email [saa@caas.gov.sg](mailto:saa@caas.gov.sg). Please refer to the course write-up below for details.

The following courses listed below are available upon request.

Course Title	Duration	Course Fees** (inclusive of 7% GST)
<b>Fire Safety Awareness</b>	½ day	\$214
<b>Industrial Fire-Fighting</b>	1 day	\$374.50
<b>Fire Safety Course for Air Cargo Agents</b>	1 day	\$321
<b>Breathing Apparatus and Fire-Fighting</b>	2 days	\$642
<b>Emergency Response Team</b>	3 days	\$963
<b>Incident Command and Control</b>	3 days	\$963
<b>Confined Space Rescue</b>	1 day	\$374.50
<b>Petrochemical/Refinery Team Leader Fire-Fighting</b>	2 days	\$695.50
<b>Petrochemical/Refinery Fire-Fighting and Breathing Apparatus</b>	3 days	\$1,057.16
<b>Petrochemical/Refinery Incident Command and Emergency Management</b>	5 days	\$1,819

\*\*Course fees are being reviewed and subject to change. Participants will be notified of the actual course fees when they are issued the Letter of Acceptance.

Updated as at 1 Mar 2022

**Singapore Aviation Academy, 1 Aviation Drive, Singapore 499867**

TEL (65) 6543 0433 | FAX (65) 6542 9890 | EMAIL [saa@caas.gov.sg](mailto:saa@caas.gov.sg) | WEBSITE <https://caas.gov.sg/saa>

# Breathing Apparatus and Fire-Fighting

Available upon request

This course provides you with knowledge on fire prevention methods and evacuation procedures, as well as equips you with the necessary competencies to use the breathing apparatus and handle fire-fighting equipment effectively.

## WHAT YOU WILL LEARN

- Learn how to operate the SCBA
- Handle hoses and nozzles
- Employ the correct method of using extinguishers
- Control and extinguish pressurised fuel fire

## WHAT IS COVERED

- Fire Concept and Behaviour
  - Fire chemistry, composition, causes and spread of fire
  - Classes of fire and methods of extinguishing
  - Common causes of fires
  - Effects of heat, smoke and toxic gases
- Fire Extinguishing Agents
  - Use of water, dry chemical, carbon dioxide and foam extinguishers
  - Minimising risks and damage through correct use of extinguishers
- Fire Safety Precaution
  - Fire detection, alarm and protection systems
  - Fire prevention
- Introduction to Breathing Apparatus
  - Makes, design and safety features
- Safe Handling of Flammable Liquids
- Safe Hazmat procedures
- Rescue and Evacuation Procedures

## LEARNING ACTIVITIES

- Practical Exercises
  - Fire-fighting with Extinguishers
  - Hose Evolutions
  - Breathing Apparatus Applications
  - Approach to pressurised fire
  - Team work and shut down procedures
  - Rescue Methods

## WHO SHOULD ATTEND

This course is beneficial to professionals who are working in petrol chemical industries, and are required to perform initial fire-fighting and rescue.

## DURATION

2 days

## FEE

S\$642 (Fees are inclusive of 7% GST)

## Confined Space Rescue

Available upon request

This course provides you with knowledge on the use of breathing apparatus, access and line rescue techniques, as well as cardio-pulmonary resuscitation (CPR) in search and rescue in a confined space or environment.

### WHAT YOU WILL LEARN

- Use equipment required for confined space rescue
- Use the correct procedures required for confined space rescue
- Protect yourself with personal protective equipment and self-contained breathing apparatus

### WHAT IS COVERED

- Introduction to Breathing Apparatus
  - Makes, design and safety features
  - Application of breathing apparatus
- CPR and Resuscitation
  - Causes of unconsciousness
- Confined Space: Hazard and Control
  - Line and rescue in confined environment
- Establishment of Safe Entry
  - Safety procedures
  - Size-up safe entry
- Legal Requirements
  - Permit to work
  - Overview of Factories Act
- Administering CPR
- Methods of Hauling
- Confined Space Rescue Exercise
  - Rescue tactics and techniques
  - Rescuing casualties in a confined environment

### LEARNING ACTIVITIES

Practical Exercises

### WHO SHOULD ATTEND

This course is beneficial to professionals involved in rescue operations and emergency response at plants, incident and service providers, and maintenance, repair and overhaul organisations.

### DURATION

1 day

### FEE

S\$374.50 (Fees are inclusive of 7% GST)

## Emergency Response Team

Available upon request

This course provides you with the knowledge and expertise on the characteristics and identification of common hazardous materials (Hazmat) found in cargo shipments.

### WHAT YOU WILL LEARN

- Apply the techniques of temporary plugging and patching for stopping leakages involving Hazmat containers
- Organise teams to manage the Hazmat emergencies

### WHAT IS COVERED

- Identification, Characteristics and Toxicology of Hazmat
- Hazmat Emergency Response Concepts and Standard Operating Procedures
- Components of an Effective Hazmat Emergency Management System
- Overview of a Hazmat Incident Command Management System
- Effective Communications During a Hazmat Incident
- Technical Information Resources for Hazmat Emergency Response
- Use of Self-contained Breathing Apparatus
- Use of Personal Protective Clothing and Equipment – Maintenance Checks and Tests
- Use of Direct-reading Hazmat Field Detection Instruments – Calibration and Limitations
- Techniques and Procedures for Confinement and Containment of Leaking Hazmat
- Decontamination Protocol for Hazmat Personnel and Equipment
- Heat Stress Illness – Symptomatology and Preventive Measures

### LEARNING ACTIVITIES

- Practical Exercises

### WHO SHOULD ATTEND

This course is beneficial to professionals involved in industrial/hazmat emergency response and operations from civil aviation administrations, airport authorities, civil defence organisations, industrial companies as well as oil refining, petrochemical and manufacturing industries.

### PREREQUISITES

- Have at least one year of experience in the emergency service
- Have completed initial responder training (or equivalent)

### DURATION

3 days

### FEE

S\$963 (Fees are inclusive of 7% GST)

# Fire Patrollers

This course provides you knowledge on safety procedures for welding, cutting and hot works to effectively carry out duties as a Fire Patroller. This course is a blended learning course, comprising eLearning and a hands-on practical training session.

## WHAT YOU WILL LEARN

- Understand the fire hazards associated with hotworks
- Learn about the roles and responsibilities of a Fire Patroller
- Learn to tackle incipient fires using appropriate portable fire extinguishers

## WHAT IS COVERED

- Chemistry of Fire
- Classification of Fires
  - Class A and B fires
- Common Causes of Fires
- Causes of Spread
- Effects of Heat, Smoke and Toxic Gases
- Hazards of Welding, Cutting and Hot Works
- Standard Precautions for Welding and Cutting
- Guides to Safety Precautions
- Fire Prevention
- Fires and Human Behaviours
- Duties and Responsibilities of Fire Patroller
- Fire-fighting with Extinguishers
  - Extinguishing class A and B fires
  - Correct approaches
  - Safety precautions
- Overcoming Fear of Darkness

## LEARNING ACTIVITIES

- Practical Exercises

## WHO SHOULD ATTEND

This course is beneficial to professionals involved in hot works, maintenance, and renovation works.

## DURATION

1 day

## MODE OF DELIVERY

- Virtual live classroom
- Practical session at Selarang Fire Ground

*Details on how to access the eLearning and course materials will be provided to participants who are successfully accepted for the course.*

## ASSESSMENT/CERTIFICATION

Upon successful completion of this course, you will be able to assume Fire Patroller responsibilities at Changi Airport and Seletar Airport for a period of two years.

## FEE

S\$363.80 (Fees are inclusive of 7% GST)

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# Fire Safety Awareness

*Available upon request*

This course provides you with knowledge on fire chemistry, classes of fire and ways to extinguish various types of fires.

## WHAT YOU WILL LEARN

- Understand common practices required for basic fire-fighting

## WHAT IS COVERED

- Chemistry of Fire
- Classification of Fires
  - Class A and B fires
- Common Causes of Fires
- Effects of Heat, Smoke and Toxic Gases
- Extinguishing Methods and Agents
  - Choice of agents
  - Effects of wrong agents being used
  - Safety precautions
- Fire-fighting with Extinguishers
  - Extinguishing class A and B fires
  - Correct approaches
  - Safety precautions
- Hose Evolutions

## LEARNING ACTIVITIES

- Practical Exercises

## WHO SHOULD ATTEND

This course is beneficial to professionals who required foundational awareness of general fire safety requirements in their premises.

## DURATION

1/2 day

## FEE

S\$214 (*Fees are inclusive of 7% GST*)

## Fire Safety Course for Air Cargo Agents

*Available upon request*

This course provides you with knowledge on fire chemistry, classes of fire and ways to extinguish various types of fires.

### WHAT YOU WILL LEARN

- Understand basic fire prevention and hazardous materials at cargo complex

### WHAT IS COVERED

- Chemistry of Fire
- Classification of Fires
  - Class A and B fires
- Common Causes of Fires
- Effects of Heat, Smoke and Toxic Gases
- Extinguishing Methods and Agents
  - Choice of agents
  - Effects of wrong agents being used
  - Safety precautions
- Elimination and Reduction of Hazards/Damages Due to Fires
- Fire Prevention
- Fires and Human Behaviours
- Air Cargo
  - Safety regulations
  - Classifications of hazards
- Dangerous Goods
  - Labelling
  - Packing
- Fire-fighting with Extinguishers
  - Extinguishing class A and B fires
  - Correct approaches
  - Safety precautions
- Hose Evolutions

### LEARNING ACTIVITIES

- Practical Exercises

### WHO SHOULD ATTEND

This course is beneficial to air cargo technicians, cargo handlers, and professionals working in cargo or airside operations at airports.

### DURATION

1 day

### FEE

S\$321 (*Fees are inclusive of 7% GST*)



# Incident Command and Control

Available upon request

This course provides you with knowledge on effective emergency management, from planning to command and control at major incidents.

## WHAT YOU WILL LEARN

- Lead an emergency response team during an incident
- Control and command the team effectively

## WHAT IS COVERED

- Background on an Incident Command System (ICS)
- Factors Affecting an Emergency Management System
- Emergency Operations, Strategies and Tactics
- Preplanning of emergency operations
- Emergency incident size-up and evaluation
- Issues involved in responding to terrorism incidents
- Structure and Functions of an ICS
- Roles and responsibilities of an incident commander, executive and command staff
- Effectiveness of an ICS
- Multi-agency operations
- Maintaining control of the emergency and incident site
- Planning and operations
- Logistics and finance
- Public information
- Effective Communications and Telecommunications

## LEARNING ACTIVITIES

- Practical Exercises

## WHO SHOULD ATTEND

This course is beneficial to aviation operational team leaders involved in emergency rescue operations as well as officers from civil defence organisations, municipal fire brigades, oil refining, petrochemical and manufacturing industries.

## PREREQUISITES

- Be in a supervisory position for at least 1 year
- Have completed Hazmat Operations or Emergency Response Team training or its equivalent

## DURATION

3 days

## COURSE FEE

S\$963 (*Fees are inclusive of 7% GST*)



# Industrial Fire-Fighting

*Available upon request*

This course provides you with knowledge on fire chemistry, classes of fire, extinguishing agents and evacuation procedures.

## WHAT YOU WILL LEARN

- Use of self-contained breathing apparatus (SCBA) and handling an industrial fire

## WHAT IS COVERED

- Operating Fire Extinguishers and use SCBA
- Effects of Heat, Smoke and Toxic Gases
- Extinguishing Methods and Agents
  - Choice of agents
  - Effects of wrong agents being used
  - Safety precautions
- Elimination and Reduction of Hazards/Damages Due to Fires
- Isolation
- Hot/Cold Zone Establishment
- Duties and Responsibilities of Team Leader
- Fire Evacuation Plan
- Hose Evolutions

## LEARNING ACTIVITIES

- Practical Exercises

## WHO SHOULD ATTEND

This course is beneficial to operational professionals from industrial companies who are dealing with fuel, hazmat and other hazardous materials

## DURATION

1 day

## FEE

S\$374.50 (*Fees are inclusive of 7% GST*)

# Petrochemical/Refinery Team Leader Fire-fighting

*Available upon request*

This course provides you with knowledge on fire-ground leadership and equips you with the skills to lead a team responding to petrochemical/refinery fires.

## WHAT YOU WILL LEARN

- Lead a section of emergency response team
- Direct and set up equipment required for fire fighting
- Use the correct type of extinguishing agent

## WHAT IS COVERED

- Principles of Fire-ground Leadership
- Fuel Farm Fire-fighting Techniques and Strategies
- Multi-level Refinery/Process Complex Fire-fighting Techniques and Strategies
- Chemical Product Information and Safety Data
- Storage Tank Construction
- Foam Protection Systems
- Rescue Methods
- Foam Monitor Operations

## LEARNING ACTIVITIES

- Practical Exercises
  - Storage tank fires
  - Multi-level refinery / process complex fires

## WHO SHOULD ATTEND

This course is beneficial to senior management, middle management, operational staff of emergency services and emergency response teams.

## DURATION

2 days

## FEE

S\$695.50 (*Fees are inclusive of 7% GST*)

# Petrochemical/Refinery Fire-Fighting and Breathing Apparatus

Available upon request

This course provides you with knowledge on fire behaviour, fire prevention and causes of fire.

## WHAT YOU WILL LEARN

- Form an emergency response team at your premises
- Don and Doff Breathing apparatus
- Set up and fight refinery fires

## WHAT IS COVERED

- Fire Concept and Behaviour
- Fire Extinguishing Agents
- Fire Safety Precaution
- Introduction to Breathing Apparatus
- Fire-fighting with Extinguishers
- Maintenance of Fire Extinguishers
- Hose Evolutions
- Handling of Nozzles and Foam Branches
- Breathing Apparatus Applications
- Storage Tank Fire-fighting
- Oil Spill Fire-fighting
- Pump Seal Fire-fighting
- Leaking Flange Fire-fighting
- Horizontal Vessel Fire-fighting
- Vertical vessel fire-fighting

## LEARNING ACTIVITIES

- Practical Exercises

## WHO SHOULD ATTEND

This course is beneficial to professionals working at refinery, fuel storage farms, and emergency responders in the aviation industry.

## DURATION

3 days

## FEE

S\$1,057.16 (Fees are inclusive of 7% GST)

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# Petrochemical/Refinery Incident Command and Emergency Management

*Available upon request*

This course provides you with knowledge on the Incident Command System (ICS) to effectively manage the command and control of an emergency.

## WHAT YOU WILL LEARN

- Lead an emergency response team
- Provide command role to your team
- Provide management and crisis intervention during an incident

## WHAT IS COVERED

- Background of an ICS
  - History, orientation and components
  - System structure and functions
- Factors Affecting an Emergency Management System
- Emergency Operations, Strategies and Tactics
  - Pre-planning of emergency operations
  - Emergency incident size-up and evaluation
- Structure and Functions of an Emergency Operations Centre
  - Incident Commander's role and responsibilities
  - Planning and operations
  - Logistics and finance
  - Roles and responsibilities of the Executive
  - Relationship between Incident Commanders and Executive
  - Maintaining control of the emergency and incident site
- Emergency Management System in Singapore
- Principles of Fire-ground Leadership

## WHAT IS COVERED (CONT'D)

- Fuel Farm Fire-fighting Techniques and Strategies
- Multi-level Process Complex Fire-fighting Techniques and Strategies
- Fuel Farm Facilities
- Storage Tank Construction and Foam Systems
- Causes of Petrochemical/Refinery Incidents
- Effective Communications
- Post-incident Crisis Intervention

## LEARNING ACTIVITIES

- Practical Exercises on Applications of ICS in a major incident
  - Storage Tank Fires
  - Multi-level Refinery/Process Complex Fires

## WHO SHOULD ATTEND

This course is beneficial to senior management, middle management, operational staff from civil aviation administrations, airport operators air navigation service providers, airlines, maintenance, repair and overhaul organisations.

## DURATION

5 days

## FEE

*S\$1,819 (Fees are inclusive of 7% GST)*