WELCOME
INTRODUCTION
SWA 2020 Interactive Course Catalog

The Saudi Water Academy (SWA) presents our 2020 Interactive Course Catalog offering over 175 courses covering multiple technical disciplines, the latest in desalination processes and technology, fire and safety, management and more. Our courses are designed for operators, technicians, and Engineers on both the basic and advanced level of learning outcomes. Discover course content summaries and outlines, learning outcomes, targeted audiences and scroll through our complete schedule of courses to find when your next class is scheduled.

Earn CEU credits with each successfully completed course. SWA stands alone as the only training entity in Saudi Arabia to have achieved the globally recognized IACET accreditation creating a new standard of quality for training in the country. Each trainee can earn CEU (Continuing Educational Credits) by successfully creating their SWA course. Trainees will now be able to transfer the knowledge gained from their SWA experiences toward schools, colleges, universities and vocational institutes throughout the world in their continuous learning journey.

Take the next step in your road to success now and choose your first course.
ABOUT US

Through leading technology, advanced training platforms, and world class knowledge in water solutions, SWA equips water professionals with the competence required to address the global crisis of sustainable clean water for the world.

THE LEARNING EXPERIENCE

Sharing our Knowledge: We started with a passion for training and empowering our own employees and soon realized as we progressed that we could share this talent and resource throughout industry and in doing so would contribute to our community and the Kingdom in a more meaningful and sustainable manner.

Our Programs: We offer complete training programs and individual specialized courses from entry level technicians and operators to advanced courses for recently graduated engineers. Establishing a comprehensive learning experience and opportunity for lifelong sustainable employment.

Our desalination program: featuring RO, MSF, and MED courses is built on over 38 years of collaboration with the world’s largest producer of desalination water, SWCC. A newly developed comprehensive multi modal RO program will be introduced in the 3rd quarter of 2020 to further enhance our position as a global leader in this field.

Specialized and advanced learning modules: in areas such as Simulator training, advanced instrumentation, welding courses, desalination processes are all part of our evolving and expanding curriculum

General Courses: Management, Executive Leadership Development and English language programs provide for the complete development of future leaders and more effective and efficient technicians, operators and engineers.

SWA CAPABILITIES

SWA Experience and background: now after more than 38 years of investment in training and technological advancements, the Saudi Water Academy has evolved into an innovative, dynamic and complete training center, creating an optimum learning environment for the development and empowerment of today’s water professionals, Engineers, operators and technicians.

Learning Facilities: We are focused on employing best practices throughout your learning journey and experience in our fully equipped smart classrooms, state of the art workshops and laboratories and simulators.

Evolving Methodologies: Our learning methodology is continually evolving and improving to create a full and robust learning experience for this and future generations of water professionals, operators, technicians, and Engineers.

Online Courses: Advances in delivering our curriculum in response to meeting the unique challenges facing the 21st training environment have come through implementing virtual (blended learning) classrooms featuring live interface with highly qualified instructors, online learning opportunities and our traditional instructor led program

Our Mission: We are dedicated in our mission of providing an accessible, integrated and robust learning experience that will provide the foundation for opportunity, advancement and a sustainable future for our trainees.

MISSION & VISION

We bring water security to the world by developing and empowering the world’s leading water professionals to design, implement and operate quality water supply solutions that are cost effective and sustainable.

Vision: To be the World’s leading source of Water Industry Professionals.
Furthering the commitment, vision, and mission of the new Saudi Water Academy to provide world class training and empowerment for water professionals, Engineers, operators and technicians in Saudi Arabia, the region, and globally, the Academy is proud to announce that it has become the first entity in the Kingdom to achieve the global IACET accreditation.

This global accreditation, that requires adherence to compliance in the best practices for the development and delivering of training recognizes the Academy’s total commitment to excellence for its students and partners.

By obtaining this accreditation, the Saudi Water Academy will now be able to issue continuing education credits (CEU) for each successfully completed class. Trainees will now be able to transfer the knowledge gained from their experience at SWA toward schools, vocational colleges, and universities throughout the world in their continuous learning journey.

Certificate of Accreditation

The International Association for Continuing Education and Training certifies that

Saudi Water Academy
d.b.a., SWA

has complied with the ANSI/IACET Standard, which is recognized internationally as a standard of excellence in instructional practices and is authorized to issue the IACET CEU.

Accreditation Begins: 5/1/2020
Accreditation Ends: 4/30/2025
Accreditation Number: 5440203-1
COURSE SECTIONS
1 - COMMON
2 - THERMAL POWER
3 - DESALINATION
4 - AUXILIARY
5 - PIPELINES
6 - CHEMISTRY
7 - ELECTRICAL
8 - INSTRUMENT
9 - MECHANICAL
10 - MACHINE SHOP
11 - WELDING
12 - AIR CONDITIONING
13 - ENGLISH LANGUAGE
14 - ADMINISTRATION
15 - SAFETY AND FIRE
16 - INFORMATION TECHNOLOGY
9 - MECHANICAL

- Valves Classification and Maintenance
- Pumps Operation and Maintenance
- Heat Exchangers Maintenance
- Packing and Seals
- Bearings and Lubrication
- Steam Turbine Maintenance Level 1
- Boiler Inspection and Maintenance
- Steam Turbine Maintenance Level 2
- Compressor Maintenance
- Machine Alignment
# Valves Classification and Maintenance

## Objective
- At the end of this course, trainees should be able to know the design, function, understand operation of valves those commonly use in the plants and practice preventive and corrective maintenance and overhaul.

## Course Designed For
- Mechanical Maintenance Technicians
- Assistant Mechanical Maintenance Technicians
- Operation instructor except chemist instructor

## Prerequisites
- Trainee must be an experienced Assistant Mechanical Maintenance Technician and Mechanical Maintenance Technicians.
- Trainee must have a basic knowledge of the English language.

## Course Outline
- Valve Design
- Valve Function
- Valve Operation
- Valve Maintenance
- Replace Valve Packing & Carry out other Routine Maintenance Inspections
- Safety Valves maintenance

## Course Details

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<td>DURATION</td>
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## Max. No. of Participants

- English and Arabic
## Objective
At the end of this course, trainees should be able to know the design, function and classification, understand operation of pumps those commonly use in the plants and practice preventive and corrective maintenance and overhaul.

## Course Designed For
- Senior Mechanical Maintenance Technicians
- Mechanical Maintenance Technicians
- Assistant Mechanical Maintenance Technicians
- Operation instructor except chemist instructor

## Prerequisites
- Trainee must be an experienced Mechanical Maintenance Technician or Assistant Mechanical Maintenance Technician
- Trainee must have a basic knowledge of the English language.

## Course Outline
- Introduction and Technology
- Pump Classifications
- Positive Displacement Pump Maintenance (Part List and Function, Disassembly-Inspection-Assembly)
- Centrifugal Pump Maintenance (Part List and Function, Disassembly-Inspection-Assembly) for single, two and multistage pumps
- Troubleshooting

## Language
- English and Arabic

## Max. No. Of Participants
- 12

## Duration
- 10 days
## Objective
- At the end of this course, trainees should be able to know the design, function and types of heat exchanger, understand and practice preventive and corrective maintenance and overhaul.

## Course Designed For
- Mechanical Maintenance Senior Technicians
- Mechanical Maintenance Technicians
- Mechanical Maintenance Assistant Technicians
- HVAC Technician
- HVAC Senior Technician
- Operation instructor except chemist instructor

## Prerequisites
- Trainee must be an experienced Mechanical Maintenance Technician or Assistant Mechanical Maintenance Technician with diploma or high school.
- Trainee must have a basic knowledge of the English language.

## Course Outline
- Heat exchangers & how they work
- Turbine condenser and Vacuum equipment
- Condensate & feed water heaters and thermal deaerator
- Maintenance of heat exchangers and condensers
- Feed water heaters, condensate coolers and drain cooler maintenance
- Plate heat exchangers maintenance

## Language
- English and Arabic

## Max. No. Of Participants
- 15

## Duration
- 5 days
## Objective

At the end of the course the trainees will be able to know packing and seals types, understand the purpose of using packing and practice changing packing and troubleshooting.

## Course Outline

- Introduction
- Gasket replacement
- State the purpose of gaskets
- Purpose and use of packing
- Removing old packing
- Mechanical seal types
- Trouble shooting

## Course Designed For

- Mechanical Assistant Technicians

## Prerequisites

- Trainee must be an experienced Mechanical Maintenance Technician.
- Trainee must have a basic knowledge of the English language equivalent to the standards shown in the Basic English Course No. 31212.

## Language

- English and Arabic

## Max. No. Of Participants

- 15

## Duration

- 3 days
**Objective**
- At the end of this course, trainees should be able to know the design, function and types of bearings, understand and practice preventive and corrective maintenance and overhaul.

**Course Designed For**
- Mechanical Maintenance Technicians
- Mechanical Maintenance assistant Technicians
- HVAC Technician
- HVAC Senior Technician
- Electrical Technician
- Electrical Senior Technician

**Prerequisites**
- Trainee must be an experienced Mechanical Maintenance Technician or Assistant Mechanical Maintenance Technician.
- Trainee must have a basic knowledge of the English language equivalent to the standards shown in the Basic English Course No. 31212.

**Course Outline**
- Introduction, Terminology
- Friction, Bearing Functions, Types, Load, Lubrication
- Bearing Failures.
- Bearing Removal, Inspection, Clearances Check
- Installation Techniques
- Lubrication Oil System
- Bearing Troubleshooting

**Language**
- English and Arabic

**Max. No. Of Participants**
- 15

**Duration**
- 3 days
# STEAM TURBINE MAINTENANCE LEVEL 1

## Objective
- At the end of this course, trainees should be able to know the design, function and types of steam turbines, understand and practice preventive and corrective maintenance and overhaul.

## Course Outline
- Steam turbine Fundamentals
- Components of steam turbine.
- Turbine valves (control, and main stop valves)
- Turbine lubrication oil system
- Gland seal system
- Inspection, and Maintenance of turbine bearings.
- Maintenance of the steam turbine Auxiliary

## Course Designed For
- Mechanical Maintenance senior Technicians
- Mechanical Maintenance Technicians
- Assistant Mechanical Technicians
- Operation thermal instructor

## Prerequisites
- Trainee must be an experienced Mechanical Maintenance Technician
- Trainee must have a basic knowledge of the English language.

## Language
- English and Arabic

## Max. No. Of Participants
- 15

## Duration
- 10 days
## Objective
- At the end of this course, trainees should be able to know the function and types of boilers, understand and practice preventive and corrective maintenance and overhaul.

## Course Designed For
- Senior Mechanical Technician
- Mechanical Technician
- Assistant Mechanical Maintenance Technicians
- Operation instructor except chemist instructor

## Prerequisites
- Trainee must be an experienced Mechanical Maintenance Technician or Assistant Mechanical Maintenance Technician with diploma.
- Trainee must have a basic knowledge of the English language.

## Course Outline
- Generating Steam
- Boiler Construction and Design
- Combustion Systems
- Condensate and Feed water Systems
- Boiler Protection

## Language
- English and Arabic

## Max. No. Of Participants
- 15

## Duration
- 5 days
STEAM TURBINE MAINTENANCE
LEVEL 2

Objective
• At the end of the course the trainees will be able to know the procedure of steam turbine major maintenance and understand how to inspect turbine major parts.

Course Designed For
• Senior Mechanical Technician.
• Mechanical Foreman

Prerequisites
• Trainee must have experienced Senior Mechanical Technician and Turbine Overhauling.
• Trainee must have a basic knowledge of the English language.

Course Outline
• Disassembly Procedure
• Bolt Heating
• Inspection of parts
• Assembly Procedure
• Rotor clearances check
• Bore setting
• Turbine, Exciter, Stub Shaft Alignment and correction

Language
• English and Arabic

Max. No. Of Participants
• 15

Duration
• 5 days
MECHANICAL

COMPRESSOR MAINTENANCE

Objective
- At the end of the course the trainees will be able to know the principles and classifications of compressor and understand the maintenance procedure and troubleshooting.

Course Designed For
- Senior Mechanical Technician
- Mechanical Maintenance Technician
- Operation instructor
- HVAC Senior Technician

Course Outline
- Working principles and classification of plant Compressors
- Cylinder, related parts and care
- Crankcase and care of crankcase parts
- Auxiliaries of compressor and care
- Reciprocating compressor troubleshooting guide
- Rotary screw compressor and maintenance
- Rotary blower and maintenance

Prerequisites
- Trainee must be an experienced Mechanical Maintenance Technician or Senior Maintenance Technician with diploma or high school.
- Trainee must have a basic knowledge of the English language equivalent to the standards shown in the Basic English Course.

Language
- English and Arabic

Max. No. Of Participants
- 15

Duration
- 5 days
## Objective
- At the end of the course, the Technicians will be able to carry out all types of Machine Alignment.
- They should also know the function and types of Machine Alignment, understand and practice fixing machine misalignment.

## Course Designed For
- Mechanical Maintenance Foreman
- Mechanical Senior Technician
- Mechanical Technician

## Prerequisites
- Trainee must be an experienced Mechanical Foreman or Senior Maintenance Technician with diploma or high school.
- Trainee must have a basic knowledge of the English language.

## Course Outline
- Alignment Basics
- Rim and Face Method
- Reverse Indicator Method
- Horizontal Machinery Alignment (Perform rim and face method)
- Horizontal Machinery Alignment (perform graphic method)
- Horizontal Machinery Alignment (draw cold alignment graphs)

## Course Designed For
- Machine Maintenance Foreman
- Machine Senior Technician
- Machine Technician

## Prerequisites
- Trainee must have a basic knowledge of the English language.

## Language
- English and Arabic

## Max. No. Of Participants
- 12

## Duration
- 5 days
SCHEDULE OF DEVELOPMENT

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**INSTRUMENT**

**PROGRAMMING - OBJECT ORIENTED**

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**INFORMATION TECHNOLOGY**

**INFORMATION TECHNOLOGY - ELECTRICAL**

**INFORMATION TECHNOLOGY - MECHANICAL**

**INFORMATION TECHNOLOGY - THERMAL**
CONCLUSION

Interested in any of these courses in a different format. SWA now offers a library of courses that can be accessed through e-learning-online courses and now offers Virtual classroom training that includes live interaction with an experienced and highly qualified SWA instructor combined with online learning lessons. Our instructors combine actual hands-on work experience with classroom training experience to deliver relevant and timely content you can use now and, in the future, to advance to the next level and beyond.

Over 38 years of experience, expertise and quality go into each one of our courses to provide you with a complete learning experience at SWA

Thank you