



Over **40** years of

experience in special training
for Power and Water Industry

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Ministry of Energy (MOE) of Islamic Republic of Iran is Responsible for Power (Generation, Transmission and Distribution) and Water (Water and Wastewater) industries in the country.

Power and Water University of Technology (PWUT) is a full size academic and higher education center (university) affiliated to the MOE. PWUT with 30 years of experiences and very modern technical and training facilities is offering short courses and degree programs for the personnel of the power and water industries.

History:

- ❖ Founded in 1970 in Tehran for offering short courses and was named as the Center for Special Training.
- ❖ Started B.Sc. degree programs (specially for the MOE personnel) in 1982 and was renamed as Sh. Abbaspour Training and Research Center.
- ❖ Started B. Sc. Programs under supervision of Ministry of Science, Research and Tech. in 1990 and was renamed as PWUT.
- ❖ Started Water and Waste Water Engineering M.Sc. (Joint) program with IHE (The Netherlands) in 1992.
- ❖ Started 10 more M.Sc. programs in 1994
- ❖ Increased the number of joint short course, programs with foreign companies (like TOTAL, ELF, Shell, AGIP) and international organizations (like FAO) from 2000.
- ❖ Started Ph.D. (Joint) program with French universities in 2001.

Facilities:

- ❖ Main Campus in Tehran in an Area About 600,000sqm.
- ❖ More than 100 Academic Staff
- ❖ About 200 Visiting Instructors from Industry
- ❖ More than 100 Labs and Workshops
- ❖ Computer Network and Internet Facilities (300 tel. lines)
- ❖ Library and Technical Document Center
- ❖ Standard Classrooms and Conference Saloons (3 amphitheater with 500 seats)
- ❖ Audio and Video Center
- ❖ Sport Facilities(Standard Football Grass Field, Volleyball and Basketball Gym., Swimming Pool, Physical Fitness Gym., Sona and more.)

PWUT Organization:

- ❖ Board of Trustees (Deputy of his Excellence President of the L.R. of Iran, Minister of Energy, Minister of Science, Research and Technology, Deputies of Ministry of Energy and President of the PWUT)
- ❖ President Deputies
- ❖ Head of Departments

PWUT Structure:



Dept. of Power Plant Engineering:

Selected Short Courses:

- 1- Heat Recovery Boilers
- 2- Vibration and Balancing
- 3- Introduction to Power Boiler Failure Mechanisms & Life Assessments
- 4- Introduction to Pressure Vessel Design Using ASME Code
- 5- Condition Monitoring in Industry
- 6- Boiler Reliability
- 7- Chemical Cleaning of Boilers and Cooling Water systems
- 8- Condenser & Cooling systems for Thermal Power Plants
- 9- Gas Turbine & Combined Cycle Power Augmentation Methods
- 10- Balancing and Vibration Analysis of Rotary machines
- 11- Renewable Energies
- 12- Non-destructive Testing (NDT)

Degree Programs:

- Power Plant Mechanics, B.Sc.
- Energy Management, M.Sc.
- Power Plants Maintenance, M.Sc.

Selected Labs and Workshops:

- Steam Power Plant Lab.
- Thermodynamics lab.
- Metalography Lab.
- Corrosion Lab.
- Strength of Material Lab.
- Fluids Mechanics Lab.
- Heat Transfer
- N.D.T Lab.
- Advanced Welding Workshop
- Pipe & Valves Workshop
- Diesel Workshop
- Foundry Workshop
- Turbine & Pumps Workshop
- Machine Tools Workshop
- Heat Exchangers Workshop



DEPARTMENT COMPUTER CONTROL SYSTEMS:

Selected Short Courses:

- 1- Distributed Control Systems (DCS)
- 2- Control of Power Plant (Steam & Combined Cycle)
- 1 : Analog Control
- 3- Control of Power Plant (Steam & Combined Cycle)
- 11: Digital Control
- 4- Industrial Control
- 5- SIMATIC S7 PLC Programming I
- 6- Measurement and Instrumentation System (Non-Electrical Variables)
- 7- Power Plant Operation Training Using Simulator
- 8- Power Plants Modeling & Simulation
- 9- Non-Electrical Variable measurement
- 10- Analysis and Fault diagnosis of Electronic Boards
- 11- Economic Load Dispatch (ELD) Using Genetic Algorithms
- 12- Expert Systems in Power Plants Operations
- 13- Define & Implementation Data base with Oracle 10g
- 14- E-Learning from Theory to Practice



Degree Programs:

- Automatic Control and Instrumentation (8.S.c)
- Software System Engineering

Labs and Workshops:

- Micro Processor Lab.
- Micro Controller Lab.
- PLC Lab.
- Electronic Lab.
- Computer Architecture Lab.
- Industrial Control Systems Lab. Measurement System Lab.
- Digital Control System Lab.
- Hydraulics and Pneumatics Lab
- Robotics Lab.

Department Electrical Engineering:

Selected Short Courses:

- 1-Voltage Stability in Electric Power System
- 2-Principle of Simulation Studies in the process of Power System Planning & Operation
- 3-Voltage and Reaction Power Control
- 4-Application of Neural Network in Power Systems
- 5-Principles and Methods of Power System Simulation Studies
- 6-Transient over voltage in power system and application of surge arresters
- 7-How to use system Earting
- 8-Design and application of the fault Current limiter in power network
- 9-Electric Field Calculation in High Voltage Equipments
- 10-High Voltage Electrical machine insulation tests
- 11-Knowing about H.V. & M.V. Circuit Breaker
- 12-Distribution Transformer Maintenance
- 13-Dissolved Gas Analysis and its applications for Power transformers maintenance
- 14-Tests and Maintenance of H.V. electrical Motors
- 15-Checking and Testing of Power Transformers
- 16-Zinc Oxide Surge arresters
- 17-Electromagnetic Transients in distribution and Power Networks
- 18-400/230/63 Kv Circuit Breakers
- 19-An Introduction to diagnostic methods in power transformers

Degree Programs:

- Electric Power Transmission and Distribution System (8.S.c)
- Electric Power (8.S.c)
- Electric Power Transmission and Distribution System (M.S.c)
- Distribution System
- High Voltage Engineering
- Power System Protection

Labs and Workshops:

- High Voltage Lab.
- System Protection Lab.
- Electric Circuits Lab.
- Hot Line Workshop
- H.V. Cable Fault Detection
- Transforms Workshop
- Electrical Machine Lab.
- H.V. and L.v. Panels Design Workshop
- Cable Connection termination Workshop