

TCS ACCREDITED CUSTOMER TRAINING PROGRAM

KEY HIGHLIGHTS



TRAINING BY INDUSTRY EXPERTS



TRAINING ON LATEST MODELS/SOLUTIONS



TCS TRAININGS COURSES ARE ACCREDITED BY THE ENGINEERING INSTITUTE OF CANADA(EIC) AND CANDIDATE WILL GET CERTIFIED BY EIC WITH CREDITS



TCS ACCREDITED CUSTOMER TRAINING PROGRAM

TCS has over a decade of experience in offering a range of quality training services covering a wide range of skill sets required for the operation and maintenance of rotating equipment.

TCS offers a comprehensive training packages designed to meet all your plant needs.

TCS can also provide custom made training packages depending upon assets available at site.



TCS courses are accredited by The Engineering Institute of Canada (EIC). For each course candidate will earn Continuing Education Units or Professional Development Hours.



TCS ACCREDITED CUSTOMER TRAINING PROGRAM

CUSTOMER TRAINING CATALOG

AERODERATIVE GAS TURBINE LM2500

WOODWARD MICRONET+ TM2500

COMPRESSOR CONTROL AND
PROTECTION

GE SPEEDTRONIC MARK V

GE SPEEDTRONIC MARK VI

GE SPEEDTRONIC MARK VIe

CONTROL VALVES ENGINEERING

PLANT DCS FUNDAMETALS

ELECTRICAL PROTECTION

BASIC POWER GENERATION

PUMPS & COMPRESSORS- PREDICTIVE
MAINTENANCE & TROUBLESHOOTING

SIEMENS PLC S7 300-400

ALLEN BRADLEY CONTROLLOGIX5000
PLC

PUMP SELECTION, INSTALLATION AND
COMMISSIONING



TCS ACCREDITED CUSTOMER TRAINING PROGRAM

CUSTOMER TRAINING CATALOG

POWER GENERATION
COMMISSIONING

ELECTRICAL POWER SUB-STATION

ROTATING EQUIPMENTS

MV & HV SWITCHGEARS

STEAM TURBINE OPERATIONS



PROCESS PLANT START-UP AND
COMMISSIONING



Courses with EIC logo indicate that those training courses are accredited.



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Course Name	Plant Personnel						Delivery Method		Days	Max Participants	Executive Summary
	Leadership	Supervisors	Operations	Mechanical Maintenance	Electrical Maintenance	Instrumentation & Controls	Site	Neutral Venue			Prerequisites
AERODERIVATIVE GAS TURBINE LM2500 (TCS-AE0401) 	√	√	√	√	√	√			5	10	<p>Basic Gas turbine theory and operation and the knowledge required to ensure consistent, trouble-free performance from the engine and its associated equipment. This course is intended for owners, operators and customer personnel concerned with the day-to-day operations and maintenance of the GE LM2500 Aeroderivative gas turbine.</p> <p>This course requires at least some basic knowledge of Gas Turbines and in particular, Industrial Gas Turbines.</p>
WOODWARD MICRONET+ TM2500 (TCS-AE0402) 	√	√	√	√		√			5	10	<p>This 5-day training course is intended for customer personnel concerned with the I&C aspects of the Woodward Micronet+ control system for effective maintenance and troubleshooting.</p> <p>The training course is meant for employees of companies that are end users of LM gas turbines who operate and maintain the gas turbines.</p>

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COMPRESSOR CONTROL AND PROTECTION (TCS-CP0101)	√	√	√	√	√	√			5	10	Prerequisites
											<p>This course gives a practical introduction to centrifugal gas compressors, their performance characteristics and their operation within a process plant. Topics will include compressor performance and selection, control strategies for capacity and surge protection and compressor operations.</p> <p>This course is designed for participants with no prior knowledge of centrifugal gas compressors, and for those with experience who want to learn more.</p>
GE SPEEDTRONIC MARK V (TCS-CT0101)	√	√	√	√		√			5	10	Prerequisites
											<p>The course will enable operators and technicians to configure HMI displays and confidently, manipulate HMI software tools as well as diagnose problems in Gas Turbine SPEEDTRONIC Control Systems.</p> <p>This course provides participants with practical hands-on training in operation and Maintenance of gas turbine power plants under normal and abnormal conditions</p>



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GE SPEEDTRONIC MARK VI (TCS-CT0102) 	√	√	√	√	√	√			5	10	<p>The course will enable operators and technicians to configure HMI displays and confidently, manipulate HMI software tools as well as diagnose problems in Gas Turbine SPEEDTRONIC Control Systems.</p> <p>This course provides participants with practical hands-on training in operation and Maintenance of gas turbine power plants under normal and abnormal conditions</p>
GE SPEEDTRONIC MARK VIe (TCS-CT0104/05) 	√	√	√	√		√			5	10	<p>The course will enable operators and technicians to configure HMI displays and confidently, manipulate HMI software tools as well as diagnose problems in Gas Turbine SPEEDTRONIC Control Systems.</p> <p>This course provides participants with practical hands-on training in operation and Maintenance of gas turbine power plants under normal and abnormal conditions</p>

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CONTROL VALVES ENGINEERING (TCS-CV0101)		√	√	√	√	√			5	10	<p>This course explains how valves and actuators function and how they are installed and calibrated.</p> <p>This course is designed for operators, Technicians and Graduates with some basic experience in instrument calibration and in control valve maintenance, installation and operation would be helpful.</p>
PLANT DCS FUNDAMETALS (TCS-DC0101)		√	√			√			5	10	<p>In this course participants will learn about the main characteristics of the DCS systems. They will become familiar with the DCS hardware and how it is connected together to make up the basis of the DCS.</p> <p>This course is designed for operators, Technicians with some basic experience in monitoring systems.</p>
ELECTRICAL PROTECTION (TCS-EL0103)		√	√		√	√			5	10	<p>Understanding of electrical fault protection systems. Requirement for testing of relays and protection systems</p> <p>Engineers and senior technicians and Services Managers who have to deal with the aspects of electrical and industrial power systems protection, control and operation will find the course beneficial.</p>

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BASIC POWER GENERATION- (TCS-GT0202)	√	√	√	√	√	√			5	10	Prerequisites
											The course concentrates on the generation and electricity supply aspects of large interconnected industrial electrical power systems. Examples are drawn from system network configurations similar to those operated at Scottish Power. Engineers, technicians, supervisors with basic idea about Industrial power systems.
PUMPS & COMPRESSORS- PREDICTIVE MAINTENANCE & TROUBLESHOOTING (TCS-PC0101)			√	√		√			5	10	From the angle of a component-by-component perspective, the course will investigate the root cause of failure and relates these to operating conditions. Design, installation, lubrication and wear related failure mechanisms, these will be identified and a detail understanding of the RCM troubleshooting tools with practical examples. Maintenance people , who are involved in the monitoring and predictive, diagnostics of pumps and compressors.

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SIEMENS PLC S7 300-400 (TCS-PL0603)					√	√			5	10	<p>Philosophy and in-depth understanding of Siemens PLC</p> <p>This course is intended for automation, control, electrical & instrument engineers and other technical staff.</p>
ALLEN BRADLEY CONTROLLOGIX5000 PLC (TCS-PL0605)					√	√			5	10	<p>Philosophy and in-depth understanding of Allen Bradley Controllogix5000 PLC</p> <p>This course is intended for automation, control, electrical & instrument engineers and other technical staff.</p>
PUMP SELECTION, INSTALLATION AND COMMISSIONING (TCS-PM0101)		√	√	√	√				5	10	<p>This programme provides a comprehensive understanding of the various types of reciprocating, rotary, and centrifugal pumps.</p> <p>Technicians, Engineers, Maintenance personnel, Senior foremen.</p>

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											Executive Summary
											Prerequisites
POWER GENERATION COMMISSIONING (TCS-PP0101)	√	√	√	√	√	√			5	10	<p>This course focuses on the operation, commissioning, and maintenance of power generation equipment and the auxiliary equipment necessary for its operation.</p> <p>The course is aimed at Managers, Engineers, and Technicians responsible for the operation and maintenance of power generation equipment who will benefit from sharing experiences in the planning, organization, and implementation of operation, commissioning, and maintenance activities.</p>
ELECTRICAL POWER SUB-STATION (TCS-PS0102)			√		√	√			5	10	<p>This course focuses mainly on medium voltage switchgear associated with power distribution in industrial Power Substations systems, which comprises by far the bulk of switchgear on most electricity distribution systems.</p> <p>This course is aimed at Engineers and Technicians responsible for the specification, purchase, installation, commissioning, operation, inspection, maintenance and repair of MV & HV & LV switchgear in Power Substations that own and/or operate large power networks, who require to improve their understanding and skills.</p>

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ROTATING EQUIPMENTS (TCS-RE0101)		√	√	√	√				5	10	<p>Introduction of Rotating Equipment' is an overview of the main types of rotating machinery in industry, and covers such aspects as types of Gas turbines, Pumps, Compressors.</p> <p>Operators, Mechanical Technicians, Engineers and Formen with basic knowledge of rotating equipment's.</p>
MV & HV SWITCHGEARS (TCS-SG0101)			√		√	√			5	10	<p>This course focuses mainly on medium voltage switchgear associated with power distribution in industrial systems, which comprises by far the bulk of switchgear on most electricity distribution systems.</p> <p>This course is aimed at Engineers and Technicians responsible for the specification, purchase, installation, commissioning, operation, inspection, maintenance and repair of MV & HV switchgear .</p>



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STEAM TURBINE OPERATIONS (TCS-ST0201)	√	√	√	√	√	√			5	10	Prerequisites
											<p>This course is designed to enable operators, supervisors, and engineering personnel to safely operate a GE designed steam-turbine generator unit.</p> <p>Operators, engineers, technicians, and administrative personnel of operating facilities as well those who may work in affiliated industries, who wish to gain an understanding of the day-to-day operation of GE steam turbines.</p>
PROCESS PLANT START-UP AND COMMISSIONING (TCS-SU0101)			√		√	√			5	10	Prerequisites
											<p>This training program is designed for those concerned with Operation, Maintenance, Planning & Execution of all Industrial activities from refining, petrochemical, chemical and power generation industries.</p> <p>Mechanical Engineering graduates, technicians and foremen with basic knowledge of rotating equipment's.</p>



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