

Up-gradation Training Courses – 2011

Course No.	: 01
Course Title	: Pumps: Operation & Operating Behavior
Course Code	: PT-U104
Duration	: 02 Weeks
Period	: 09 ~ 20 January, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Operator/Technicians working in different industries and other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and more confidence in the field of pump operation
- To acquaint constructional parts of pumps including their functions
- To learn about characteristics, Standard operating procedure of pumps, Troubleshooting of pumps etc.
- To enhance knowledge about Measuring, Indicating & Control instruments including logic operation

Course Content:

Classification, Working principle, Characteristics & major constructional parts of pump, Process symbols & process diagrams, Measuring, indicating & recording instrument; Standard operating procedure (SOP); Lubrication; Operating problem & troubleshooting of pump.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Nasir Uddin Fakir, Assistant Chemist

Course No.	: 02
Course Title	: Programmable Logic Controller (PLC) & Programmable Instruments
Course Code	: IC-U320
Duration	: 02 Weeks
Period	: 09~20 January, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 10,000/- per participant
Designed for	: Junior and mid-level officers working in different Industries and other establishments.

Course Objectives:

- To develop technical Knowledge and skill related to maintenance and operation of an industrial plant.
- To give an understanding about PLC and Programmable Instruments.
- Participants will be able to edit programs and trouble-shooting of PLC and Programmable Instruments

Course Content:

Introduction to process plant instrumentation, sequential logic operation technique Hardware and Software of PLC and Programmable Instruments. Programming Introduction; Program development practices; Operation of a process by PLC, Programmable(SMART) transmitter; Programmable controller & recorder; Installation maintenance and trouble-shooting of PLC and Programmable Instruments.

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with PLC and Programmable Instruments.
- Case study on real/pilot plant problem.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Engr. Kazi Rafiqul Islam, Deputy Chief Engineer (Inst.)

Course No.	: 03
Course Title	: Environmental Pollution Monitoring and Control
Course Code	: CE-U309
Duration	: 02 Weeks
Period	: 09 ~ 20 January, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/= per participant
Designed for	: Junior and mid-level officers working in different industries and other establishments

Course Objectives:

- To know the conventional acts & rules of Bangladesh on Environmental protection
- To acquire knowledge on air & water quality standard
- To grow the ability of performing air and water pollution analysis
- To build a comprehensive knowledge on pollution monitoring system

Course Content:

Introduction; Rules & regulations; Sources & causes of air pollution; Air quality standards & monitoring system; Sources & classification of water pollutants; Water quality standards; Water pollution monitoring & control techniques; Solid waste management & disposal. Noise pollution & its abatement; Afforestation and environment.

Training Methodology:

- Class room lecture
- Use of Multimedia & Overhead Projector
- Recap Session
- Practical & Demonstration Session
- Review & Discussion
- Video Show

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Md. Mostak Uddin Thakur, Chemist

Course No.	: 04
Course Title	: Inspection and Troubleshooting of Rotating Machines
Course Code	: ME-U302
Duration	: 02 Weeks
Period	: 23 Jan.~ 03 Feb. 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To gather knowledge about classification, construction & working principle of rotating machines.
- To enhance knowledge and skill of the participants on inspection, maintenance & troubleshooting of different types rotating machines.
- To gather knowledge of SOP of different rotating machines.

Course Content:

Introduction and concept of Preventive maintenance in Inspection & Troubleshooting of rotating machines; Different types of Pumps, Compressors, Construction & Maintenance of Turbine, Inspection & Troubleshooting of Turbine, Troubleshooting of Fan, Blower, Agitator and their remedy, Troubles in different equipment due to improper Lubricants & Lubrication, NDT methods used in inspection of machinery components, Machine condition monitoring and analysis by using vibration analysis technology, Shaft failure analysis and its remedy, Gear failure analysis and its remedy, Causes of Seal failure, Root causes of Bearing failure and their remedy, Inspection, Study of Rotating machines, Demonstration on Vibration monitoring and diagnosis equipment, Case study on Turbine & Compressor failure,

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Mohammad Billal, Deputy Chief Engineer (Mech.)

Course No.	: 05
Course Title	: Electrical Power Generation Level-2
Course Code	: EE-U303
Duration	: 02 Weeks
Period	: 23 Jan.~ 03 Feb. 2011
Nomination deadline	: 1 week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical knowledge and skill related to Electrical Power Generation..
- To provided the participant a good understanding of the techniques of power generating plant installation, operation and maintenance
- To achieve primary skills to participants will be able to startup, shutdown, maintenance trouble-shooting and over all control of power generating plants.

Course Content:

Introduction to different types of power generating plant and energy resources. Mechanical & electrical features of generators; Excitation system, Prime movers : Diesel Engine, gas turbine & Steam turbine, Lube oil, gas & steam system for turbine, Steam boilers, Operational control & safety devices for prime movers. Control & Protective devices for generator. Voltage & frequency Control of generator. Start-up, Synchronization & loading of generator. Practice on generator operation; Trouble shooting & maintenance.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 06
Course Title	: Industrial Safety & Prevention of Accidents
Course Code	: IS-U101
Duration	: 02 Weeks
Period	: 23 Jan. -03 February, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Operator/Technicians working in different industries and other establishments.

Course Objectives:

- To improve knowledge about industrial hazards, safety regulations & safety awareness.
- To learn safety in chemical process plant operation including house keeping
- To acquaint the functions of different personal protective equipments
- To develop skillness of safe-handling of aggressive & toxic chemicals, gas cylinders etc.
- To enhance knowledge about safety-precautions of electrical & mechanical maintenance.
- To increase the skillness to rescue the victims & provide first aid.

Course Content:

Industrial hazards & safety requirements, safety regulations & safety signs, accident & its prevention, fire and explosion hazards, chemical & acoustic hazards, electrical hazards & safety precautions, personal protective equipment, house keeping and its importance, safe handling of gas and gas cylinders, safety measures associated with confined space etc. along with practical sessions related to safety & rescue operation.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Industrial Safety and Health Department
Course Coordinator	: Md. Nasir Uddin Fakir, Assistant Chemist

Course No.	: 07
Course Title	: Compressors & Compression System Operation
Course Code	: PT-U306
Duration	: 01 Week
Period	: 05 ~10 February, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior and mid-level officers of different industries & other establishments.

Course Objectives:

- To provide a comprehensive coverage of the fundamental principles of compressors.
- To improve primary skills to formulate, evaluate and manage this equipment
- To enhance knowledge about operation and maintenance of compressors

Course Content:

Introduction to gas compression system., Different types of compressors and their characteristics, Familiarization with major constructional parts of different types of compressor, Turbine as prime mover for compression system, Lube oil & Sealing system of compressors & turbine, Study of P & I diagrams of compressors & turbine and sequential logic interlock diagram of compression system, Use of compressor in refrigeration system, Standard operating procedure(SOP) of different types of compressor, Trouble shooting of different types of compressor

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Sholay Ibna Shamsher, Deputy Chief Chemist

Course No.	: 08
Course Title	: Programmable (SMART) Instruments and its Application
Course Code	: IC-U117
Duration	: 01 Week
Period	: 05 ~ 10 February, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 6,000/- per participant
Designed for	: Technicians and operators working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to Programmable (SMART) instruments used in industrial plant.
- To develop technical Knowledge and skill related to Programmable (SMART) instruments used in industrial plant.
- Participants will be able to Program, calibrate, install, maintenance and trouble-shooting of (SMART) instruments.

Course Content:

Industrial Programmable (SMART) Instrument & its Application; Developing trends of digital instruments and its wide application in process industries; Different types of SMART instrument: Transmitter, Controller, Recorder, Control Valve Positioner; SMART instrument terminology; Architecture of SMART Instrument; Programming language & Programming technique; Calibration; Maintenance & trouble shooting of SMART system

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with Programmable (SMART) instruments.
- Case study on Programmable (SMART) instruments

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Engr. Md. Nazrul Islam, Deputy Chief Engineer (Instrument)

Course No.	: 09
Course Title	: Development of Environmental Management System
Course Code	: CE- U323
Duration	: 1 Week
Period	: 05 ~ 10 February, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/= per participant
Designed for	: Junior and mid-level officers working in different industries and other establishments

Course Objectives:

- To know the environmental quality standards in Bangladesh
- To acquire knowledge on environmental management system, ISO 14000 & formulation of environmental policy
- To acquire knowledge on developing Environmental Management Plan

Course Content:

Environmental legislation & quality standard in Bangladesh; Environmental quality & ISO 14000; Terms of **Environmental Management System** ; Formulation of environmental policy; Identification & recording of aspects & impacts; Fixing up of objectives & targets; Preparation of EMS manual; Benefits of EMS; Case study.

Training Methodology:

- Class room lecture
- Use of Multimedia & Overhead Projector
- Recap Session
- Review & Discussion

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Badal Kumar Banik, Dy. Chief Chemist

Course No.	: 10
Course Title	: Alignment Technology of Rotating Machines
Course Code	: ME-U311
Duration	: 02 Weeks
Period	: 27 Feb. ~ 10 March, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To gather basic knowledge about Alignment Technology of Rotating Machine.
- To achieve practical knowledge about precision and non-precision alignment methods.
- Familiarization with different terms related to alignment methods.

Course Content:

Introduction to alignment techniques of rotating machine, Equipment used & terms related to mis-alignment, Importance of alignment for different types of coupling, General description of different methods of alignment, Alignment by reverse indicator method using graph, Centering of rotor and casing, Thermal effect on alignment, Alignment practice on turbine & compressor, Alignment of chain & sprocket, Alignment of coupling with feeler gauge & knife edge, Alignment of V-belt, Alignment by rim & face method of a machine train, Alignment of gear & pinion.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Md. Shahab Uddin, Deputy Chief Engineer (Mech.)

Course No.	: 11
Course Title	: Quality Control and Management of Industrial & Drinking Water
Course Code	: CE- U307
Duration	: 2 Weeks
Period	: 27 February ~ 10 March, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/= per participant
Designed for	: Junior and mid-level officers working in different industries and other establishments

Course Objectives:

- To know the standards of industrial effluents & drinking water
- To acquire knowledge on water quality monitoring
- To develop knowledge on treatment & supply system
- To build a confidence in water quality analysis

Course Content:

Analysis & monitoring of raw water, treated water, boiler water, cooling water and process water for industries; Problems of analysis & their solutions; Treatment and supply system; Quality checking of municipal & domestic water.

Training Methodology:

- Class room lecture
- Use of Multimedia & Overhead Projector
- Recap Session
- Practical & Demonstration Session
- Review & Discussion

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Md. Mostak Uddin Thakur, Chemist

Course No.	: 12
Course Title	: Microcomputer Fundamentals & its application.
Course Code	: CI-U101
Duration	: 01 Week
Period	: 05 ~ 10 March, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Office staff & other employees working in different industries and other establishments

Course Objectives:

- To give an idea about Microcomputer Hardware & Software.
- To provide the participant a good understanding of word processing by MS word & uses of other application software.
- To achieve primary skills to Computerized documentation, Calculation & Multimedia Projector presentation.

Course Content:

Introduction to Computer Hardware & Software; Introduction to MS office; Different Menu bars or icon meanings of MS Office, Microsoft Word: Document preparation in different formats and editing, file saving/opening, Printing; MS Excel: Document preparation in different formats and editing formula calculation & graph, file saving/opening, Printing; MS PowerPoint: Presentation document preparation for Multimedia Projector, file saving/opening; Introduction to Photoshop & its application.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation, Typing speed test & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Computer & Information Technology Department
Course Coordinator	: Mrs. Maksuda Begum Ratna, Assistant Commercial Officer

Course No.	: 13
Course Title	: Industrial Boilers & Operation of Steam generation system
Course Code	: PT-U106
Duration	: 02 Weeks
Period	: 12 ~ 24 March, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Operator/Technicians working in different industries and other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and confidence in the field of boiler operation
- To acquaint different parts of industrial boiler.
- To learn about internal & external treatment of boiler water.
- To enhance knowledge about Boiler control system, Standard operating procedure, Safety & Preservation of industrial boiler etc.

Course Content:

Introduction to Industrial Boiler and steam system, Process symbols & Process diagrams, Familiarization with constructional parts of boiler, External treatment for boiler feed water, Internal treatment for boiler water, Combustion management of boiler, Burner & firing system of boiler, Control & Safety system of boiler, Standard operating procedure (SOP) of boiler, Cleaning & preservation of boiler, Sequential logic interlock system, Industrial Safety etc.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Ashraf Ali, Assistant Chemist

Course No.	: 14
Course Title	: Advanced PLC with SCADA System & its Application in Process Automation and Control
Course Code	: IC-U 332
Duration	: 02 Weeks
Period	: 12 ~24 March, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 25
Course fee	: Tk. 12,000/- per participant
Designed for	: Junior and mid-level officers working in different Industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to program development and operation of an industrial plant with Advanced PLC and SCADA system.
- To give an understanding about Advanced PLC and SCADA system..
- Participants will be able to develop programs, graphical interface and trouble-shooting of Advanced PLC and SCADA system.

Course Content:

Introduction to Advance PLC and Control system; Architecture and Functional Description of Advanced PLC and Operator Station (OS); Programming languages and Programming Techniques; Interface devices and software; PC-based system, Operation station and SCADA software; Program Development practice for different languages; Installation, Maintenance and Troubleshooting PLC.

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with Advanced PLC with SCADA system
- Case study on real/ Pilot plant problem with Advanced PLC & SCADA system.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Md. Habibur Rahman, Deputy Chief Technical Officer (Instrument)

Course No.	: 15
Course Title	: Basic Industrial Management
Course Code	: GM-301
Duration	: 02 Weeks
Period	: 12. ~ 24 March., 2011.
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid level officers working/dealing in different industries and other establishments

Course Objectives:

- To give an understanding about administrative rules and regulations of BCIC
- To learn on Labour Laws- 2006
- To understand about HRM
- To learn about Security and Industrial Safety

Course Content:

Historical background and Administrative Structure of BCIC; BCIC Service Rules-1988; Duties of Security Officer with special consideration on the KPI; Industrial Relations; Industrial Safety measures; Bangladesh Labour Laws- 2006; Domestic Inquiry and Disciplinary action procedure in Industries; Protocol & House keeping; Training & Development; Production & Productivity techniques; Technique of Supervision & Function of Supervisor; Leadership, Employee Motivation, Tools of Motivation and Organizational Discipline; Financial Management with special emphasis on Pay, Bill, TA, DA, Income tax, Budget & Budgetary Control; Procurement Policy ; MPIC & Store Control System in BCIC; Review & Evaluation

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Administration Department
Course Coordinator	: Md. Selim Mahmud, Assistant Manager (Admin.)

Course No.	: 16
Course Title	: Mechanical Fabrication & Assembly
Course Code	: ME-U101
Duration	: 02 Weeks
Period	: 02 ~ 13 April, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Mechanical Technicians working in different industries and other establishments

Course Objectives:

- To achieve knowledge about precision and non-precision measurement and use of them
- To acquire knowledge about the technique of mechanical fabrication and assembly
- Familiarization with different welding processes

Course Content:

Introduction to mechanical fabrication and assembly, Precision and non-precision measurement, different types of precision measuring instrument, Vernier caliper, height gauge and depth gauge, Bevel protractor, micrometer (inside & outside) dial indicator, Assembly, limits & fits, Fasteners and adhesives, Different types of hand tools and their proper use, Introduction to general welding, Safety measure for fabrication and welding, Welding defects and causes, Preparation for arc welding, welding positions & types of joint, Required NDT Methods for detection of welding defects, Types of electrodes, electrode coating, electrode selection and storing, Study of mechanical drawing, Practice with precision measuring instrument, Practice on bench fitting, Pipe bending (hydraulic)

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Md. Mofazzal Hossain, Deputy Chief Engineer (Mech.)

Course No.	: 17
Course Title	: Industrial Motors: Problems and Remedies Level-2
Course Code	: EE-U312
Duration	: 02 Weeks
Period	: 02 ~ 13 April, 2011
Nomination deadline	: 1 week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to Industrial Motors.
- To provide the participant a good understanding of the techniques of starting and control of different types of motors and their operation and maintenance.
- To achieve primary skills to participants will be able to installation, testing, commissioning and operating characteristics of different types of motors.

Course Content:

Working principle of various industrial motors: Induction, Synchronous, DC, universal motor etc. Constructional feature & operational behavior of various motors. Mechanical, Electrical & magnetic circuit problems & their remedies. Hands-on practice on assembly/ disassembly, start-up, control, protection, trouble shooting & maintenance of different types of motors.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 18
Course Title	: Microcomputer & its application.
Course Code	: CI-U301
Duration	: 01 Week
Period	: 02 ~ 07 April, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid level officers working in different industries and other establishments

Course Objectives:

- To give an idea about Microcomputer Hardware & software.
- To provide the participant a good understanding of word processing by MS word & uses of other application software.
- To achieve skills to Computerized documentation, Calculation & Multimedia Projector presentation.

Course Content:

Introduction to Computer Hardware & Software; Introduction to MS office; Different Menu bar or icon meanings of MS Office; Microsoft Word: Document preparation in different formats and editing, file saving/opening, Printing; MS Excel: Document preparation in different formats & editing for formula calculation and graph, file saving/opening, Printing; MS PowerPoint: Presentation document preparation for Multimedia Projector, file saving/opening; Introduction to Photoshop & its application; Introduction to Auto CAD & its application

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation, Typing speed test & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Computer & Information Technology Department
Course Coordinator	: Mrs. Maksuda Begum Ratna, Assistant Commercial Officer

Course No.	: 19
Course Title	: Distributed control System (DCS): Principles and Operation
Course Code	: IC-U 116
Duration	: 02 Weeks
Period	: 17 ~ 28 April, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 10,000/- per participant
Designed for	: Technicians and operators working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to operation of DCS based plant.
- To give an understanding about DCS.
- Participants will be able to operate a DCS controlled plant.

Course content:

Industrial control system, computerized control system and conventional control system in industries Distributed control system, Architecture, hardware & software of DCS ; Data communication and control networks; Interfacing and storage devices; Study of DCS controlled plant instrumentation; Operation of a DCS controlled plant .

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice on DCS plant operation.
- Case study on real/DCS Pilot plant operation.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Engr. Md. Nazrul Islam, Deputy Chief Engineer (Instrument)

Course No.	: 20
Course Title	: Industrial Corrosion & Corrosion Control
Course Code	: PT-U321
Duration	: 01 Week
Period	: 23 ~28 April, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior and mid-level officers working in different industries & other establishments.

Course Objectives:

- To know about the industrial corrosion, principles/mechanism effects of corrosion etc
- To develop the knowledge about different corrosion protection methods.
- To make aware of corrosion problems in industries

Course Content:

Corrosion mechanism; Forms of corrosion; Corrosive environments; Stray current corrosion; Corrosion in aqueous environment and control options; Principles and application of anodic and cathodic protection; Conditioning of the environment; Corrosion prevention by inhibitors; Corrosion testing & monitoring. Practice on corrosion problems in lab.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Shofiqul Karim, Deputy Chief Chemist

Course No.	: 21
Course Title	: Industrial Safety in Mechanical Maintenance
Course Code	: IS-U344
Duration	: 01 Week
Period	: 23 ~ 28 April, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and establishments

Course Objectives:

- To grow awareness of the participants on industrial safety
- To develop skill on safe material handling and transportation.
- To motivate the participant about use of PPE.
- To gather knowledge about rescue operation & first aid.

Course Content:

Introduction to industrial safety, Industrial safety regulations & safety signs, Mechanical maintenance safety, Safe working practice during welding & fabrication, Safe use of hand tools & portable tools, Safe use of hoisting & transportation equipment and ladder practice, Arrangement of scaffolding works & work platform, Personal protective equipment, Safety measures associated with confined space, Safe handling procedure of gas & gas cylinder; Electrical hazards & safety precautions, Rescue operation, First aid, Danger of chemicals and their associated fire & explosion hazard.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Arup Kumar Pramanik, Deputy Chief Engineer (Mech.)

Course No.	: 22
Course Title	: Industrial Lubricants & Lubrication System
Course Code	: ME-U310
Duration	: 01 Week
Period	: 07 ~ 12 May, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and establishments

Course Objectives:

- To give an understanding about industrial and automotive lubricants.
- To gather knowledge on different viscosity grades of lube oil and greases.
- To gather knowledge on different properties of lubricants.
- To achieve knowledge in the selection of proper lubricants.

Course Content:

Introduction to lubricants & lubrication system, Properties of different types of lubricants, Different types of lubricating oil & their place of use, Different types of grease & solid lubricants & their place of use, Additives of lubricant & their functions, Methods of lubrication, Lubrication system for anti-friction bearing and sealing system of lubricants, Lubricants & lubrication system for I.C Engine, Theory and technology of oil film formation & film thickness in plain bearing, Lube oil purification & routine check-up, Storage and handling of lubricants, Lube oil condition monitoring instrument, Determination of lube oil viscosity and flash point.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Jasim Uddin Ahmed Khan, Deputy Chief Engineer (Mech.)

Course No.	: 23
Course Title	: Industrial Motors: Problems and Remedies Level-1
Course Code	: EE-U105
Duration	: 02 Weeks
Period	: 07 ~ 19 May, 2011
Nomination deadline	: 1 week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Electrical technicians / operators working in different industries & other establishments.

Course Objectives:

- To develop technical Knowledge and skill related to Industrial Motors.
- To provide the participant a good understanding of the techniques of starting and control of different types of motors and their operation and maintenance.
- To achieve primary skills to participants will be able to installation, testing, commissioning and operating characteristics of different types of motors.

Course Content:

Working principle of various industrial motors: Induction, Synchronous, DC, universal motor etc. Constructional feature & operational behavior of various motors. Mechanical, Electrical & magnetic circuit problems & their remedies. Hands-on practice on assembly/ disassembly, start-up, control, protection, trouble shooting & maintenance of different types of motors.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. Md. Ariful Kaiser, Assistant Engineer (Elect.)

Course No.	: 24
Course Title	: Industrial Safety & Prevention of Accidents
Course Code	: IS-U301
Duration	: 02 Weeks
Period	: 07~19 May, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior and mid-level officers of different industries & other establishments.

Course Objectives:

- To improve knowledge about industrial hazards, safety regulations & safety awareness.
- To learn safety in chemical process plant operation including house keeping
- To acquaint the functions of different personal protective equipments
- To develop skillness of safe-handling of aggressive & toxic chemicals, gas cylinders etc.
- To enhance knowledge about safety-precautions of electrical & mechanical maintenance.
- To increase the skillness to rescue the victims & provide first aid.

Course Content:

Industrial hazards & safety requirements, Safety regulations & safety signs, accident & its prevention, fire & explosion hazards, chemical & acoustic hazards, electrical hazards & safety precautions, Personal protective equipment, house keeping and its importance, safe handling of gas cylinders, safety measures associated with confined space etc. along with practical sessions related to safety and rescue operation.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Industrial Safety and Health Department
Course Coordinator	: Md. Shofiqul Karim, Deputy Chief Chemist

Course No.	: 25
Course Title	: Industrial Waste Water Treatment & Effluent Management
Course Code	: PT-U335
Duration	: 02 Weeks
Period	: 29 May~09 June, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior and mid-level officers working in different industries & other establishments.

Course Objectives:

- To know the techniques of operation of water & waste water treatment plant
- To improve knowledge about different water treatment processes such as:
-Raw water treatment, Ion exchange demineralization & membrane separation
- To introduce water pollution & different methods of waste water treatment
- To develop knowledge of water treatment plant instrumentation & quality control methods

Course Content:

Introduction to industrial waste water treatment, Industrial raw water treatment, Process symbols & process diagrams, Ion exchange process & regeneration of ion exchanger, Water treatment by membrane separation processes, Water treatment plant instrumentation, Water pollution & different methods of waste water treatment; Primary, Secondary & Tertiary Treatment, Sludge Stabilization & disposal, Trouble shooting of water treatment plant, Practices on water treatment pilot plants, Analysis for water quality- Hardness, Turbidity, Acidity, Alkalinity, BOD, COD etc.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department

Course Coordinator : Md. Abdul Aziz, Chemist

Course No. : 26

Course Title : **Distributed Control System: Operation, Programming, Maintenance & Troubleshooting**

Course Code : IC-U 323

Duration : 02 Weeks

Period : 29 May ~ 09 June, 2011

Nomination deadline : One week before commencing date

No. of Course : 01

No. of Participants : 25

Course fee : Tk. 10,000/- per participant

Designed for : Junior and mid-level officers working in different Industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to operation, programming, maintenance and trouble-shooting of DCS based plant.
- To give an understanding about programming and maintenance of DCS
- Participants will be able to edit programming, operation and maintenance of a DCS controlled plant.

Course Content:

Concept of conventional and industrial control system; Computerized control, Architecture & software of DCS and plant Scape system; Functional description of different units; Data communication and control network; Interfacing devices; Process configuration and Programming; Study of DCS controlled plant instrumentation, operation of a DCS controlled pilot plant, maintenance & trouble shooting of DCS

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice on programming, operation and maintenance of a DCS plant.
- Case study on real/ DCS Pilot plant problem.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor : Executive Director

Course Co-Advisor : Training Director

Course Director : Head of Instrumentation & Control Engineering Department

Course Coordinator : Engr, Md. Moyazzem Hossain Pk., Executive Engineer (Mech.)

Course No.	: 27
Course Title	: Microcomputer Fundamentals & its application.
Course Code	: CI-U101
Duration	: 01 Week
Period	: 04 ~ 09 June, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Office staff & other employees working in different industries and other establishments

Course Objectives:

- To give an idea about Microcomputer Hardware & Software.
- To provide the participant a good understanding of word processing by MS word & uses of other application software.
- To achieve primary skills to Computerized documentation, Calculation & Multimedia Projector presentation.

Course Content:

Introduction to Computer Hardware & Software; Introduction to MS office; Different Menu bar or icon meanings of MS Office; Microsoft Word: Document preparation in different formats & editing, file saving/opening, Printing; MS Excel: Document preparation in different formats & editing for formula calculation and graph, file saving/opening, Printing; MS PowerPoint: Presentation document preparation for Multimedia Projector, file saving/opening; Introduction to Photoshop & its application.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation, Typing speed test & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Computer & Information Technology Department
Course Coordinator	: Mrs. Maksuda Begum Ratna, Assistant Commercial Officer

Course No.	: 28
Course Title	: Mechanical Maintenance
Course Code	: ME-U102
Duration	: 02 Weeks
Period	: 19 ~ 30 June, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Mechanical technicians working in different industries and other establishments

Course Objectives:

- To enhance knowledge and skill of the participants on mechanical maintenance
- To gather knowledge about SOP of Pump
- To gather knowledge about testing, measuring & working tools

Course Content:

Introduction to mechanical maintenance, Different types of hand tools and their proper use, Vernier caliper, micrometer & dial Gauge, Construction & maintenance of pumps, Maintenance of compressor, Maintenance of turbine, Construction & maintenance of conveying equipment, Different types of rolling and plain bearings, Lubricants and lubrication system, Different types of valves, their construction & maintenance, Pipe and pipe fittings, Construction and maintenance of heat exchangers, General welding process.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Arup Kumar Pramanik, Deputy Chief Engineer (Mech.)

Course No.	: 29
Course Title	: Transformer: It's Use, Operation, Troubleshooting & Maintenance
Course Code	: EE-U313
Duration	: 01 Week
Period	: 25 ~ 30 June, 2011
Nomination deadline	: 1 week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical knowledge and skill related to transformer. Its Use, Operation, Troubleshooting & Maintenance.
- To provided the participant a good understanding of the techniques of transformer installation, operation and maintenance.
- To achieve primary skills to participants will be able to testing commissioning, parallel operation, synchronization, load shearing and protection of transformer.

Course Content:

Principle of transformer operation, functional description and application of various types of transformers. Tap Changers & termination, Cooling & protection system, Vector grouping & parallel operation of transformers. Testing & purification of transformer oil. Detection of mechanical electrical and magnetic circuit problems. Preventive & corrective maintenance of transformer. Hands-on practice on transformer operation & maintenance.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 30
Course Title	: Risk Awareness & Risk Management in Process Industries
Course Code	: IS-U333
Duration	: 02 Weeks
Period	: 19–30 June, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior and mid-level officers of different industries & other establishments..

Course Objectives:

- To develop knowledge about risk awareness and its management.
- To acquaint safety regulations & safety sign including PPE
- To increase safety awareness in chemical process plant operation.
- To learn about Inspection, Auditing & Recording system of process equipment.
- To develop skillness of performing safe-handling of aggressive & toxic chemicals.
- To enhance knowledge about electrical hazards & mechanical hazards

Course Content:

Introduction to risk awareness and its management; Safety regulations and safety sign; Safety in chemical process plant operation; Inspection, Auditing & Recording system of process equipment; Fire and Explosion hazards; Toxic hazard; Personal protective equipment; Electrical hazards; Safety measures in confined spaces; Effect of preventive maintenance on safety; HAZOP & HAZAN. Practice on safety equipment.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Industrial Safety and Health Department
Course Coordinator	: Mohibus Samad, Chemist

Course No.	: 31
Course Title	: Cement Manufacturing Technology
Course Code	: PT-U121
Duration	: 02 Weeks
Period	: 09 ~ 21 July, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Operator/Technicians working in different industries and other establishments.

Course Objectives:

- To improve comprehensive understanding of the cement manufacturing process
- To develop the performance to do the job with more skill & more confidence in the relevant fields.
- To develop knowledge about modern instruments
- To acquaint the techniques of analysis, drawing and reporting system
- To enhance knowledge about Safety aspects.

Course Content:

Introduction to cement manufacturing technology, Raw materials & Preparation of raw mix / raw meal, Process symbols & process diagrams, Pump technology & operation, Clinker production, Construction & Maintenance of Rotary Kiln & Ball Mill, Electrical maintenance in cement industry, Measuring devices (Sensors & transmitters), Introduction to Programmable Logic Controller (PLC), Finish grinding (cement), Quality control in cement industry, Industrial safety, Integrity and Anticorruption, Lab practice on process units, e.g. Symbols & process diagrams, Pump arrangement, Solids drying, Solids handling, Different safety equipments

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Mohibus Samad, Chemist

Course No.	: 32
Course Title	: Chromatographic Methods of Analysis
Course Code	: CE- U313
Duration	: 2 Weeks
Period	: 09 ~21 July, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 10,000/= per participant
Designed for	: Junior and mid-level officers working in different industries and other establishments

Course Objectives:

- To know the principles of chromatographic analysis techniques
- To grow the ability of operational maintenance & calibration of chromatographic instruments
- To grow the ability of performing analysis on gas chromatograph & high performance liquid chromatograph
- To develop skills on data acquisition, recording & presentation

Course Content:

Principle, multiple application, operational maintenance and calibration of chromatographic instruments; Practice on gas chromatograph, high performance liquid chromatograph (HPLC) and elemental analyzer; Analytical data acquisition, recording & presentation.

Training Methodology:

- Class room lecture
- Practical & Demonstration Session
- Use of Multimedia & Overhead Projector
- Recap Session
- Review & Discussion
- Video Show

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Badal Kumar Banik, Dy. Chief Chemist

Course No.	: 33
Course Title	: Microcomputer & its Application
Course Code	: CI-U301
Duration	: 01 Week
Period	: 09 ~ 14 July, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid level officers working in different industries and other establishments

Course Objectives:

- To give an idea about Microcomputer Hardware & software.
- To provide the participant a good understanding of word processing by MS word & uses of other application software.
- To achieve skills to Computerized documentation, Calculation & Multimedia Projector presentation.

Course Content:

Introduction to Computer Hardware & Software; Introduction to MS office; Different Menu bars or icon meanings of MS Office; Microsoft Word: Document preparation in different formats & editing, file saving/opening, Printing; MS Excel: Document preparation in different formats & editing for formula calculation and graph, file saving/opening, Printing; MS PowerPoint: Presentation document preparation for Multimedia Projector, file saving/opening; Introduction to Photoshop & its application; Introduction to Auto CAD & its application

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation, Typing speed test & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Computer & Information Technology Department
Course Coordinator	: Mrs. Maksuda Begum Ratna, Assistant Commercial Officer

Course No.	: 34
Course Title	: Advanced PLC with SCADA system & its Application in Process Automation and Control
Course Code	: IC-U 332
Duration	: 02 Weeks
Period	: 11 ~22 September, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 25
Course fee	: Tk. 12,000/- per participant
Designed for	: Junior and mid-level officers working in different industries and other establishment

Course Objectives:

- To develop technical Knowledge and skill related to program development and operation of an industrial plant with Advanced PLC and SCADA system.
- To give an understanding about Advanced PLC and SCADA system.
- Participants will be able to develop programs, graphical interface and trouble-shooting of Advanced PLC and SCADA system.

Course Content:

Introduction to Advance PLC and Control system; Architecture and Functional Description of Advanced PLC and Operator Station (OS); Programming languages and Programming Techniques; Interface devices and software; PC-based system, Operation station and SCADA software; Program Development practice for different languages; operation of process plant by advance PLC; Installation, Maintenance and Troubleshooting of PLC.

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with Advanced PLC with SCADA system
- Case study on real/ Pilot plant problem with Advanced PLC & SCADA system.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Engr. Md. Moyazzem Hossain Pk., Executive Engineer (Mech.)

Course No.	: 35
Course Title	: Maintenance of Bearings, Selection & Proper Use of Lubricants, Seals, Paints & Protective coatings
Course Code	: ME-U338
Duration	: 02 Weeks
Period	: 11 ~ 22 September, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To gather basic knowledge about types & construction of bearings, classification & selection of seals, composition & properties of paints & protective coatings
- To provide the participants a good understanding of fitting of bearings, selection & proper use of lubricants and their place of use
- To gather knowledge about selection criteria of paints and their application procedure.

Course Content:

Bearing: Types & construction, Selection of bearing, Materials of bearing, Inspection and troubleshooting of bearings, Maintenance of bearing, White metalling procedure in plain bearing. **Seals:** Classification and their place of use, Gasket: Material, selection & Installation procedure, Construction & working principle of gland packing, oil seal, V-ring, V-packing, O-ring, mechanical seal, labyrinth seal, oil film seal & dry gas seal, Causes of seal failure. **Lubricants:** Different types of lubricants, properties and use, Methods of lubrication, lube oil purification & routine check-up, Technology of oil film formation and film failure analysis in plain bearing. **Paints:** Types of paints & protective coatings and their role in maintenance works, Mounting & dismounting of rolling bearing, Clearance measurement of plain bearing, Remetalling of plain bearing, Video show on bearing maintenance, Preparation of gasket & gland packing joint, Mechanical seal installation & clearance measurement of labyrinth seal, Determination of lube oil viscosity & flash point, Surface preparation and application procedure of primer & paint.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Mohammad Billal, Deputy Chief Engineer (Mech.)

Course No.	: 36
Course Title	: Electrical Maintenance Techniques
Course Code	: EE-U118
Duration	: 01 Week
Period	: 17 ~ 22 September, 2011
Nomination deadline	: 1 week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Electrical Technicians / operators working in different industries & other establishments

Course Objectives:

- To develop technical knowledge and skill related to electrical maintenance techniques..
- To provided the participant a good understanding of different types of maintenance techniques of electrical machines and control equipments.
- To achieve primary skills to participants will be able to increase operational efficiency and productivity of industrial plants by inspection, trouble-shooting and maintenance.

Course Content:

Different maintenance methods preventive maintenance, inspection & monitoring of switchgear system, Generator, Transformer, motor and other electrical equipment. Hands-on practice on preventive maintenance scheduling & execution.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 37
Course Title	: Working Principle, Operational Behavior & Characteristics of Pump
Course Code	: PT-U304
Duration	: 02 Weeks
Period	: 09~20 October, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior and mid-level officers working in different industries & other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and more confidence in the field of pump operation
- To acquaint constructional parts of pumps including their functions
- To learn about characteristics, Standard operating procedure, Troubleshooting of pumps etc.
- To enhance knowledge about Measuring, Indicating & Control instrument.

Course Content:

Introduction to industrial pumps and their classification, working principles; Construction; Characteristics of pumps; Measuring, indicating & recording instrument; process and process diagrams; Start-up and shut down procedures; Different mode of operation, Seals & bearings; Lubrication; Troubleshooting; Sequential logic operation, Practical session on pump arrangement.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Ashraf Ali, Assistant Chemist

Course No.	: 38
Course Title	: Basic Industrial Management
Course Code	: GM-301
Duration	: 02 Weeks
Period	: 09 ~ 20 October, 2011.
Nomination deadline	: One week before commencing date
No. of Course	: 02
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid level officers working/dealing in different industries and other establishments

Course Objectives:

- To give an understanding about administrative rules and regulations of BCIC
- To learn on Labour Laws- 2006
- To understand about HRM
- To learn about Security and Industrial Safety

Course Content:

Historical background and Administrative Structure of BCIC; BCIC Service Rules-1988; Duties of Security Officer with special consideration on the KPI; Industrial Relations; Industrial Safety measures; Bangladesh Labour Laws- 2006; Domestic Inquiry and Disciplinary action procedure in Industries; Protocol & House keeping; Training & Development; Production & Productivity techniques; Technique of Supervision & Function of Supervisor; Leadership, Employee Motivation, Tools of Motivation and Organizational Discipline; Financial Management with special emphasis on Pay, Bill, TA, DA, Income tax, Budget & Budgetary Control; Procurement Policy ; MPIC & Store Control System in BCIC; Review & Evaluation

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Administration Department
Course Coordinator	: Md. Selim Mahmud, Assistant Manager (Admin.)

Course No.	: 39
Course Title	: Electrical Safety & Electricity Regulations
Course Code	: IS-U316
Duration	: 01 week
Period	: 15 ~ 20 October, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To give clear understanding about electrical safety rules and regulations.
- To improve the participant a good understanding how to maintain electrical safety precaution in industrial and commercial areas.
- To achieve primary skills to participants will be able to handle with safety gears and safe use of electrical tools.

Course Content:

Introduction to electrical safety program, safe voltage & current for working personnel, Personal general protective equipment, Electrical safety signs, safety barriers, safety tags, safety locks, locking devices etc. Personal electrical protective equipment, Role of earthing electrical safety, Safe working procedure of using electrical measuring & testing equipment and protective devices. Safe electrical working procedures and precautions, emergency actions in case electrical hazards, Electrical Regulations.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. Md. Ariful Kaiser, Assistant Engineer (Elect.)

Course No.	: 40
Course Title	: Installation, Troubleshooting & Maintenance of Industrial Pumps
Course Code	: ME-U317
Duration	: 01 Week
Period	: 29 Oct.~ 03 November, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To achieve knowledge about classification & construction pumps, their working principle, inspection, troubleshooting & maintenance.
- To gather knowledge about SOP of pump
- To gather knowledge how to installed a pump
- To enhance knowledge & skill about assembly & disassembly of pumps

Course Content:

Classification of Pumps & their use, Construction & Working principle of Centrifugal & Reciprocating pumps, Installation & troubleshooting of Centrifugal Pump; Maintenance of Centrifugal & Reciprocating Pumps; Construction, Working principle, Troubleshooting and Maintenance of Gear & Screw Pumps, Construction, Working principle, Troubleshooting and Maintenance of Vane & Lobe Pumps, Construction, Installation, Troubleshooting & Maintenance of Bearings, Lubricants & lubrication system of Pump, Seals & sealing system of Pump, Disassemble & Assemble practice of Pumps, Operational behavior of centrifugal pump,

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Md. Mofazzal Hossain, Deputy Chief Engineer (Mech.)

Course No.	: 41
Course Title	: Troubleshooting and Maintenance of Electrical Sub-station
Course Code	: EE-U308
Duration	: 01 week
Period	: 29 Oct. ~ 03 Nov.,2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To develop technical Knowledge and skill related to electrical sub-station.
- To provided the participant a good understanding of the techniques of inspection and maintenance of different parts / components of electrical sub-station.
- To achieve primary skills to participants will be able to installation, testing, commissioning and operation of different types of sub - stations.

Course Content:

Electrical power distribution system requirements. Circuit breakers, Isolator & bus bar, Control & protective devices, Testing & maintenance of power transformer, Current transformer & Potential transformer. Electrical storage batteries, Testing of relays. Testing of high voltage cables & transformer oil. Testing & calibration of control & protective devices. Power factor improvement devices. Shop practice on substation switch gear.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 42
Course Title	: Microcomputer Networking, Internet & E-mail applications
Course Code	: CI-U302
Duration	: 01 Week
Period	: 29 Oct. ~ 03 Nov., 2011.
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Junior & mid level officers working in different industries and other establishments

Course Objectives:

- To give an idea about Microcomputer Hardware & software.
- To provide the participant a good understanding of Microcomputer Networking System.
- To achieve skills to Internet browsing & email applications

Course Content:

Introduction to Computer Hardware & Software; Networking concept ; Internet concept & its applications for Information exchange; Internet browsing soft wares for information searching and downloading; E-mail & its application for message sending and receiving, file attaching with e-mail etc. .

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group discussion, Report preparation & presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Computer & Information Technology Department
Course Coordinator	: Mrs. Maksuda Begum Ratna, Assistant Commercial Officer

Course No.	: 43
Course Title	: Programmable Logic Controller
Course Code	: IC-U 319
Duration	: 02 Weeks
Period	: 20 Nov.- 01 Dec., 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 10,000/- per participant
Designed for	: Junior and mid-level officers working in different Industries and other establishment

Course Objectives:

- To develop technical Knowledge and skill related to maintenance and operation of an industrial plant.
- To give an understanding about PLC.
- Participants will be able to edit programs and trouble-shooting of PLC.

Course Content:

Process instrumentation technology: Concept of logic operation; Logic symbols; Sequential logic elements & circuit diagram; Conventional sequence control & PLC. Architecture of PLC; Functional description of different component of PLC; Interface devices; Programming language & Programming technique; Program development for sequential logic control; Operation of a process plant by PLC; Installation, Maintenance and trouble shooting of PLC.

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with PLC.
- Case study on real/Pilot plant problem with PLC.

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Engr. Md. Anisur Rahman, Deputy Chief Engineer (Instrument)

Course No.	: 44
Course Title	: Electrical Power Generation Level-1
Course Code	: EE-U107
Duration	: 01 Week
Period	: 26 Nov. ~ 01 Dec, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/- per participant
Designed for	: Electrical Technicians / operators working in different industries & other establishments

Course Objectives:

- To develop technical knowledge and skill related to electrical power generation.
- To provided the participant a good understanding of the techniques of power generating plant installation, operation and maintenance
- To achieve primary skills to participants will be able to startup, shutdown, maintenance trouble-shooting and over all control of power generating plants.

Course Content:

Introduction to different types of power generating plant and energy resources. Mechanical & electrical features of generators; Excitation system, Prime movers : Diesel Engine, gas turbine & Steam turbine, Lube oil, gas & steam system for turbine, Steam boilers, Operational control & safety devices for prime movers. Control & Protective devices for generator. Voltage & frequency Control of generator. Start-up, Synchronization & loading of generator. Practice on generator operation; Trouble shooting & maintenance.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. A K M Arif Hossain, XEN (Elect.)

Course No.	: 45
Course Title	: Safe Handling of Chemicals in Laboratories
Course Code	: IS- U113
Duration	: 01 Week
Period	: 26 Nov. ~ 01 December, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 5,000/= per participant
Designed for	: Technicians and Operators of different industries and other establishments

Course Objectives:

- To know the safety rules & regulations
- To develop knowledge on handling & storage of toxic & hazardous chemicals
- To build a comprehensive knowledge on chemical exposure monitoring & lab waste management

Course Content:

Safety rules & protective measures; Toxic & hazardous chemicals handling & storage; Lab ventilation, exits, layout etc; Chemical exposure monitoring; Lab waste management; First aid.

Training Methodology:

- Class room lecture
- Use of Multimedia & Overhead Projector
- Recap Session
- Review & Discussion

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Md. Mostak Uddin Thakur, Chemist

Course No.	: 46
Course Title	: Boiler: Operation, Burner management & Automatic Combustion Control
Course Code	: PT-U307
Duration	: 02 Weeks
Period	: 10 ~22 December, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior and mid-level officers working in different industries & other establishments.

Course Objectives:

- To develop the performance to do the job with more skill and more confidence in the field of boiler operation.
- To acquaint different parts of industrial boiler with their functions
- To learn about internal & external treatment of boiler water.
- To enhance knowledge about Boiler control system, Standard operating procedure, Safety & Preservation of industrial boiler etc.

Course Content:

Introduction to Industrial Boiler and steam system, Process symbols & Process diagrams, Familiarization with constructional parts of boiler, External treatment for boiler feed water, Internal treatment for boiler water, Combustion management of boiler, Burner & firing system of boiler, Control & Safety system of boiler, Standard operating procedure (SOP) of boiler, Trouble shooting of a running boiler, Cleaning & preservation of boiler, Sequential logic interlock system, Industrial Safety etc.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation
- Case study

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Mortuza Ali Bhuyan, Addl. Chief Chemist

Course No.	: 47
Course Title	: Maintenance of Boiler, Heat Exchanger, Cooling Tower, Valves, Proper use of Rigging & Hoisting devices
Course Code	: ME-U343
Duration	: 02 Weeks
Period	: 10 ~ 22 December, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/- per participant
Designed for	: Junior & mid-level officers working in different industries and other establishments

Course Objectives:

- To gather knowledge about construction, working principle & maintenance of boiler
- To provide the participants a good understanding of the type of heat exchanger & cooling tower & their maintenance
- To gather sufficient knowledge about different types of valves, their maintenance & place of use
- Familiarization with different Rigging & Hoisting devices

Course Content:

Classification & construction of Boiler; Firing system of Boiler & Boiler water treatment; Boiler accessories & auxiliaries and their maintenance; Insulation system of boiler & their repair; Inspection, troubleshooting and maintenance of boiler; Inspection & testing procedure of boiler. Types and construction of heat exchanger and Cooling tower, Inspection, troubleshooting and maintenance of heat exchanger & Cooling tower, Pressure testing of heat exchanger.

Classification of valves, Construction and main components of different valves, Repair and maintenance of valves.

Introduction to rigging and hoisting equipment & accessories; Construction, repair and maintenance of overhead crane, Chain block and winch; Construction of wire sling/rope , Rigging techniques, fixing of rigging attachments, codes and signals; Making of scaffolding and working platforms and their safety measures.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Factory visit

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Arup Kumar Pramanik, Deputy Chief Engineer (Mech.)

Course No.	: 48
Course Title	: Industrial Pollution Monitoring and Control
Course Code	: CE- U111
Duration	: 2 Weeks
Period	: 10 ~ 22 December, 2011
Nomination deadline	: One week before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 8,000/= per participant
Designed for	: Technicians and Operators working in different industries and other establishments

Course Objectives:

- To know the conventional acts & rules of Bangladesh on Environment. Protection
- To acquire knowledge on air & water quality standard
- To grow the ability of performing air and water pollution analysis
- To build a comprehensive knowledge on pollution monitoring system

Course Content:

Causes & nature of air pollution, Air quality standards & monitoring system; Water quality standards for industrial effluent; Water pollution monitoring & control techniques; Solid waste management & disposal; Noise pollution & its control.

Training Methodology:

- Class room lecture
- Practical & Demonstration Session
- Use of Multimedia & Overhead Projector
- Recap Session
- Review & Discussion

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Badal Kumar Banik, Deputy Chief Chemist

Special Training Courses-2011
(For University Students)

Course No.	: 49
Course Title	: Industrial Process Unit Operation & Process Control Technique.
Course Code	: PT-S203
Duration	: 04 Weeks.
Nomination deadline	: Two weeks before commencing date
No. of Course	: 04
No. of Participants	: 50
Course fee	: Tk. 6,500/- per participant
Designed for	: Student of AC & CE Deptt. DU, RU, NSTU & CEPS Deptt., SUST.

Course Objectives:

- To build up knowledge about Industrial instrumentation and control system of process units.
- To acquaint constructional components and functions of different equipment
- To enhance knowledge about operation control analysis
- To build up efficiency by operating and controlling pilot plants.

Course Content:

Introduction to process technology; Process symbols & process diagrams; Operation & control of industrial process units; Construction, operation & control system of industrial boilers, heat exchangers, pumps, compressors & turbine; Lubricants & Lubrication of industrial equipment; Measuring & control techniques of process parameters; Sensors; Transmitters; Controllers; Control valves; Distributed control system (DCS); Programmable logic controller (PLC); Sequential logic control; Seal & Gasket; Bearing; Pipe fittings & Valves; Insulations & high temperature refractory; Industrial safety; etc.

Practice on operation unit e. g. Water treatment plant, Ion exchange, Heat exchange unit, Pump arrangement, Flow assembly, Evaporation & Crystallization, Absorption & Neutralization. Practice on Distributed control system (DCS), Programmable logic controller (PLC) and Sequential logic control. Operation and application of Photometer & UV/Visible Spectrophotometer, Atomic Absorption & Spectrophotometer, Infrared Spectrophotometer, High Performance Liquid Chromatography, Gas Chromatography.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion, Report preparation and presentation

Evaluation system:

Written test, Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Sholay Ibna Shamsher, Deputy Chief Chemist

Course No.	: 50
Course Title	: Industrial Technology on Mechanical Engineering
Course Code	: ME-S203
Duration	: 04 weeks
Nomination deadline	: 02 weeks before commencing date
No. of Course	: 01
No. of Participants	: 40
Course fee	: Tk. 6,500/- per participant
Designed for	: 4 th year students of IPE Department, SUST, Sylhet

Course Objectives:

- To gather theoretical knowledge about Mechanical Engineering related subjects
- To gather practical knowledge about different machinery/equipment
- To acquire knowledge about the technique of mechanical fabrication and assembly.
- To achieve primary knowledge about maintenance & operation of different rotating machine/equipment.

Course Content:

Introduction to workshop machine and their application; Familiarization with arc, gas, TIG & spot welding; Arc & TIG welding and gas cutting practice; Machine shop practices- turning, milling, drilling, surface grinding etc; Classification of engineering materials; Detection of flaws by NDT methods.

Measurement & measuring instruments; Description of Ball, Roller & Plain bearings; Mounting/dismounting of bearings; Types of lubricants & their properties, Methods of lubrication.

Introduction to common rotating machines; Construction & working principles of Pumps, Fan, Blower, Compressors & Turbines; Assembly/disassembly practice of pumps; Vibration analysis technique; Construction & working principle of IC engine, Heat exchanger & Cooling towers.

Principle of Refrigeration & air conditioning; Refrigerator, Window & Split type air cooler and Central air conditioning system; Introduction to industrial Boilers; Construction & working principles of Boilers; Insulating materials etc.

Principle of mechanical power transfer, Mechanical power transmission device; Alignment technology; Hand tools, tackles & accessories; Paints & protective coatings; Pipes & pipe fittings; Introduction to rupture disc, steam traps, strainers & filters; Seals & gaskets; Construction & working principle of different types of valves.

Industrial safety, Process parameter measuring instruments; Basic concept of PLC & Sequential logic operation, Distributed control system; Industrial power generation & distribution etc.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class; Factory visit

Evaluation system:

Written test, Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Engr. Jasim Uddin Ahmed Khan, Deputy Chief Engineer (Mech.)

Course No.	: 51
Course Title	: Industrial Process Unit Operation & Process Control Technique.
Course Code	: PT-S203
Duration	: 04 Weeks.
Nomination deadline	: Two weeks before commencing date
No. of Course	: 01
No. of Participants	: 50
Course fee	: Tk. 6,500/- per participant
Designed for	: Students of PGED, SUST, Sylhet

Course Objectives:

- To build up knowledge about Industrial instrumentation and control system of process units.
- To acquaint constructional components and functions of different equipment
- To enhance knowledge about operation control analysis
- To build up efficiency by operating and controlling pilot plants.

Course Content:

Introduction to process technology; Process symbols & process diagrams; Operation & control of industrial process unit; Construction, operation & control system of industrial boiler, heat exchanger, pump, compressor & turbine; Practice on process units, e. g. Water treatment, Ion exchange, Heat exchange, Absorption - Neutralization, Distillation, Pump arrangement, Evaporation & Crystallization, Solid drying and Flow assembly. Operation and application of Gas Chromatography (GC); Determination of fuel properties, Measurement of process parameters and control technique; Indicating, Recording & Counting instruments; Sensors; Transmitters; Controllers; Control valves and Distribution Control System (DCS) and Programmable logic controller(PLC). Seal & Gasket, Bearing, Pipe fittings, Valves, Insulation and High temperature refractory. Electrical motors, the driving unit.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Group Discussion
- Report preparation and presentation

Evaluation system:

Written test, Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Operation & Process Technology Department
Course Coordinator	: Md. Mortuza Ali Bhuyan, Addl. Chief Chemist

Course No.	: 52
Course Title	: Quality Control and Unit Operation in Food Industry
Course Code	: CE-S204
Duration	: 04 Weeks
Nomination deadline	: Two weeks before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 6,500/= per participant
Designed for	: Students of FETD, SUST, Sylhet

Course Objectives:

- To develop the basic ideas of food analysis
- To grow the ability of performing simple analysis of food quality
- To build basic knowledge on instrumental analysis
- To develop knowledge on units in process industry
- To develop knowledge on safety measures in process industry

Course Content:

Introduction to quality control laboratory; Gravimetric analysis of foodstuff; Titrimetric & volumetric methods of analysis; Analysis of starch, protein & fat in food; Hydrous test in sugar/molasses and formalin test in fish; Food & beverage analysis; Edible oil & fat analysis; Spectrometric methods of analysis - use of Photometer, UV/Vis Spectrophotometer, Flame Photometer, Atomic Absorption Spectrophotometer (AAS); Analysis of potable water; Chromatographic methods of analysis - use of Gas Chromatograph (GC), High Performance Liquid Chromatograph (HPLC), Pollution control in food processing industry; Unit operations in process industry; safety measures in process industry.

Training Methodology:

- Class room lecture (Multimedia & Overhead Projector)
- Practical & Demonstration Session
- Recap, Review & Discussion Session
- Video Show

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Md. Mostak Uddin Thakur, Chemist

Course No.	: 53
Course Title	: Industrial Technology on Electrical & Instrumentation
Course Code	: EE-S203
Duration	: 03 Weeks
Nomination deadline	: 02 Weeks before commencing date
No. of Course	: 02
No. of Participants	: 60 (Each batch)
Course fee	: Tk. 5,000/- per participant
Designed for	: 4 th year students of Electrical & Electronic Engineering Department of CUET, Chittagong

Course Objectives:

- To develop technical Knowledge and skill related to Industrial Technology on Electrical & Instrumentation.
- To provide the participant a good understanding of electrical Machines techniques and instrumentation & control techniques in process industries.
- To achieve a good practical knowledge on handling, testing, commissioning and operation of different types of electrical machines & instruments.

Course Content:

Electrical Technology: Electrical safety, Electrical switching & protective devices, symbols, Electrical maintenance tools, tackles, Conductors, Cables, insulators, Electrical testing & measuring instrument, Transformer, Generators and motors, Starting and control of induction motors, Electrical Power plant, Substation & distribution system, Earthing, Power factor improvement plant..

Instrumentation & Control Technology: Introduction to process Instrumentation, Instrumentation symbol & drawings, Sensing and measurement of process variables, Transmitter & Controller, Control Loop, Control Valve, Sequential Logic Operation, Distributed Control System (DCS), Programmable Logic Controller (PLC), Vibration Analysis Technology.

Mechanical Technology: Bearings, Transmission system, Pumps, Turbines, Alignment, Vibration Analysis Technology. **Process Technology:** Industrial safety.

Training Methodology:

- Class-room lecture (Multimedia projector, Overhead projector etc.)
- Practical & Demonstration class
- Case study
- Factory visit

Evaluation system:

Written test, Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. Tarun Kanti Sarkar, Deputy Chief Engineer (Elect.)

Course No.	: 54
Course Title	: Industrial Control Technology on Electrical & Instrumentation.
Course Code	: IC-S203
Duration	: 02 Weeks
Nomination deadline	: Two weeks before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 4,500/- per participant
Designed for	: For the students of applied physics, electronics and communication Engineering of Islamic University, Kustia

Course Objectives:

- To develop technical Knowledge and skill related to Electrical & Instrumentation control system
- To give an understanding about Electrical & Instrumentation control system.
- Participants will be able to know operation and maintenance of plant with Electrical & Instrumentation system and equipments.

Course Content:

Electrical safety, Electrical switching & protective devices, Electric circuits & circuit components, symbols Electrical maintenance tools & tackles, Conductors, Cables, insulators ,Electrical testing & measuring instrument, Transformer, Generators , Motors and its control devices, Electrical Power plant Sensors, Transmitter, Indicator & Recorders for process parameter measurement, Control Valve, Controller, Control Loop, Sequential Logic Operation, Programmable Logic Controller (PLC), Distributed Control System (DCS).

Training Methodology:

- Class Room Lecture (Multimedia projector, Overhead projector etc.)
- Group Discussion
- Hands on Practice with Electrical & Instrumentation control system and equipments.
- Case study on real/ Pilot plant problem

Evaluation system:

Written test, Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Instrumentation & Control Engineering Department
Course Coordinator	: Md. Habibur Rahman, Deputy Chief Technical Officer (Instrument)

Course No.	: 55
Course Title	: Chemical Analysis in Quality Control
Course Code	: CE-S205
Duration	: 03 Weeks
Nomination deadline	: Two weeks before commencing date
No. of Course	: 02
No. of Participants	: 25
Course fee	: Tk. 5,000/= per participant
Designed for	: Students of Dept. of Chemistry, SUST, Sylhet

Course Objectives:

- To strengthen the ideas of basic analytical methods
- To grow the ability of performing selective quality analysis jobs
- To build a knowledge on fundamental instrumental analysis
- To grow knowledge on quality testing of raw materials & products
- To develop knowledge on units of process industry
- To develop knowledge on safety measures in process industry

Course Content:

Introduction to quality control laboratory; Gravimetric methods of analysis; Titrimetric & volumetric methods of analysis; Spectrometric methods of analysis – use of Photometer, UV/Vis Spectrophotometer, Flame Photometer, Atomic Absorption Spectrophotometer (AAS); Chromatographic methods of analysis – use of Gas Chromatograph (GC), High Performance Liquid Chromatograph (HPLC), Elemental Analyzer; Quality testing of raw material and products; Analysis of industrial water; Determination of pollution control parameters; Unit operations in process industry; Safety measures in process industry.

Training Methodology:

- Class room lecture (Multimedia & Overhead Projector)
- Practical & Demonstration Session, Video Show
- Recap, Review & Discussion Session

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Badal Kumar Banik, Deputy Chief Chemist

Long-term Training Courses – 2011

Course No.	: 56
Course Title	: Chemical Analysis and Quality Control in Process Industries
Course Code	: CE-S201
Duration	: 4 Months
Nomination deadline	: Two weeks before commencing date
No. of Course	: 01
No. of Participants	: 25
Course fee	: Tk. 2,500/= per participant / month
Designed for	: B.Sc.with Chemistry Personnel

Course Objectives:

- To strengthen the basic ideas of chemical analysis
- To know the different fields of analytical chemistry
- To grow the ability of performing classical analysis jobs
- To build a comprehensive knowledge on instrumental analysis
- To develop knowledge on process industries
- To develop knowledge on determination of pollution parameters and pollution protection
- To develop knowledge on industrial & chemical safety

Course Content:

Fundamentals of analytical chemistry; Qualitative methods of analysis; Gravimetric methods of analysis; Titrimetric & volumetric methods of analysis; Spectrometric methods of analysis - use of Photometer, UV/Vis Spectrophotometer, Flame Photometer, Atomic Absorption Spectrophotometer (AAS); Chromatographic methods of analysis - use of Gas Chromatograph (GC), High Performance Liquid Chromatograph (HPLC), Elemental Analyzer; Analysis of industrial water; Quality control techniques in different chemical industries; Safety in chemical laboratory; Industrial pollution monitoring & control.

Training Methodology:

- Class room lecture (Multimedia & Overhead Projector)
- Practical & Demonstration Session
- Recap Session
- Review & Discussion, Video Show
- Factory visit,

Evaluation system:

Attendance, Class participation & Overall performance

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Analytical Chemistry & Environmental Science Department
Course Coordinator	: Badal Kumar Banik, Dy. Chief Chemist

Course No.	: 57
Course Title	: Mechanical Fabrication and Welding Technique
Course Code	: ME-S104
Duration	: 4 Months
Nomination deadline	: Two weeks before commencing date
No. of Course	: 01
No. of Participants	: 20
Course fee	: Tk. 4,500/= per participant / month
Designed for	: Minimum Class VIII Pass Personnel

Course Objectives:

- To gather knowledge on mechanical fabrication and general welding processes.
- To give an understanding about engineering drawing.
- Familiarization with mechanical measuring instrument
- To gather skillness on arc and gas welding processes.

Course Content:

Introduction to mechanical fabrication and welding technology; Basic engineering drawing ; Basic measuring instrument & measurement techniques; Introduction to metals and their properties; Fabrication tools and equipment; Introduction to arc welding equipment and accessories; Introduction to gas welding equipment and accessories; Welding defects & NDT of welding joints; Safety in welding; Practice on arc welding, gas welding, gas brazing and gas cutting; Different joint preparation on plates & pipes and fabrication them with arc welding at different positions.

Training Methodology:

- Class-room lecture (White board, Overhead projector etc.)
- Practical & Demonstration Session
- Review & Discussion
- Factory visit,

Evaluation system:

Attendance, Class participation, Practical job & Written test.

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Md. Motiur Rahman , Assistant Engineer (Mech.)

Inter-Departmental Training Courses

Course No.	: 58
Course Title	: Integrated Industrial Technology (Level-1)
Course Code	: ID-F102
Duration	: 03 Months (Institutional) & 09 Months (In-plant training) (01.3.10 ~ 28.2.11 & 22.6.10 ~ 21.6.11, two batches)
No. of Participants	: 116 + 112 = 228 (02 Batches)
Designed for	: BCIC Apprentice Grade-3 (S.S.C-Science)

Course Objectives:

- To build up knowledge about chemical process technology
- To acquaint constructional components & operation of process equipment
- To develop skill by operating and controlling pilot plant
- To enhance knowledge about repair & maintenance of different machines

Course Content:

Introduction to process technology, Process symbols and process drawing, Flow behavior of fluids, Heat transfer and heat exchangers, Industrial water treatment, Boiler, Pump technology, Compressors and compression system operation, Steam turbine, Industrial safety, Ammonia process technology, Urea process technology, SSP and TSP process technology, Di-Ammonium Phosphate (DAP) process technology, Pulp and paper manufacturing technology. Receiving Instrument, Pressure Measurement, Liquid Level Measurement, Flow Measurement, Temperature Measurement, Transmitter, Control Valve,. Metrology, Engineering Drawing, Seals, Pipes, Bearings, Valves, Lubricants , Welding & Machine shop Technology, Mechanical Power Transmission. Electric circuits & circuit components, symbols, Conductors, Cables, Insulators, Electrical testing & measuring instrument, Magnet and electro-magnetic effect, Photo-electric effect, Piezoelectric effect, Electrical switching & protective devices, DC Generators & DC motors. Chemical analysis & Basic analytical Equipment, Familiarization and preparation for reagents and solutions, Titrimetric analysis and Gravimetric analysis, Demonstration on pH-meter, Conductivity meter, Analysis Using UV and visible Spectrophotometer, Analysis Using UV and visible Spectrophotometer, Demonstration on Turbidity Meter, Industrial water and wastewater analysis, Water pollution problem in process industries, Air pollution problem in process industries, Safety in chemical laboratories.

Training Methodology:

- Class-room lecture (White board, Overhead projector etc.)
- Practical & Demonstration Session
- Review & Discussion

Evaluation system:

Attendance, Class participation, Practical job & Written test.

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Mechanical Engineering Department
Course Coordinator	: Mostofa Abdul Mazid , Assistant Engineer (Mech.)

Course No.	: 59
Course Title	: Integrated Industrial Technology (Basic Course)
Course Code	: ID-F101
Duration	: 03 Months (Institutional) & 09 Months (In-plant training)
Nomination deadline	: Two weeks before commencing date
No. of Participants	: As per BCIC requirement
Designed for	: BCIC Apprentice Grade-2 (H.S.C-Science)

Course Objectives:

- To develop technical Knowledge and skill related to Industry
- To give an understanding about Industrial technology.
- Participants will be able to know operation and maintenance of plant. Machineries and Mechanical technology. Electrical & Instrumentation system and equipments.

Course Content:

Process Technology: Industrial process technology; Process symbols; Basic unit operations; Process equipment & machinery: Industrial safety.

Instrumentation & Control Engineering: Sensing & measurement of process parameters; Transmitters, receivers, controllers, control valves & valve positioners; Automatic process control

Mechanical Process Plant Engineering : Tools & Tackles: Fasteners & joints; Pipes & pipe fittings, Valves; Filters & strainers; Welding & fabrication technique; Rotating machines: Static equipment.; workshop machinery:

Electrical & Electronic Engineering Electrical cables, conductors & insulators; Electrical measuring & testing instruments; Motors; Transformers; Protective devices; Electrical power system Electrical wiring; Electrical safety

Analytical Chemistry & Environmental Science Chemicals & reagents; Solution; Basic principles of qualitative & quantitative analysis; Fundamentals of instrumental analysis. environmental pollution & industrial pollutants

Training Methodology:

- Class-room lecture (White board, Overhead projector etc.)
- Hands on Practice with Pilot plant, Machineries and Mechanical technology. Electrical & Instrumentation system and equipments. Laboratory analysis
- Review & Discussion

Evaluation system:

Attendance, Class participation, Practical job & Written test.

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Assigned Technical Department
Course Coordinator	: Assigned Officer from Technical Department

Course No.	: 60
Course Title	: Integrated Industrial Technology
Course Code	: Tailor Made
Duration	: 06 Months (01.10.2010 ~ 31.03.2011)
Nomination deadline	: Two weeks before commencing date
No. of Participants	: 08
Course fee	: Tk. 15000/- per participant / month
Designed for	: Apprentice KAFCO (H.S.C-Science)

Course Objectives:

- To develop technical Knowledge and skill related to Industrial Technology
- To provided the participant a good understanding of electrical Machines techniques and instrumentation & control techniques in process industries, Mechanical instruments, Laboratory etc.
- To achieve a good practical knowledge on handling, testing, commissioning and operation of different types of industrial equipment

Course Content:

Mechanical Process Plant Engineering: Measurement and Measuring Instruments; Engg. materials & Engg. Drawing practice; seals & Gaskets; Lubricants; Boilers,

Process Technology: Process symbols & drawings; heat transfer & heat exchanger; Boiler and steam system; SOP of Pump.

Instrumentation & Control Engineering: Measurement of process parameters and control technique; Distributed control system.

Basic Electrical & Electronic Engineering: Motors and motor controls; Transformers & circuit breakers; Electrical power system; analog and digital electronics;

Analytical Chemistry & Environmental Science : Basic Principle of qualitative & quantitative analysis of raw material, intermediate & final products

Technical Service Cell: M. S rod & its properties, Cement & its properties.

Training Methodology:

- Class-room lecture (White board, Overhead projector etc.)
- Hands on Practice with Pilot plant, Machineries and Mechanical technology. Electrical & Instrumentation system and equipments. Laboratory analysis
- Review & Discussion

Evaluation system:

Attendance, Class participation, Practical job & Written test.

Course Advisor	: Executive Director
Course Co-Advisor	: Training Director
Course Director	: Head of Electrical & Electronic Engineering Department
Course Coordinator	: Engr. Md. Ariful Kaiser, Asstt. Engr. (Elect.)

Tailor-made Training Course

(To be arranged as per request of any organization with mutual discussion)