



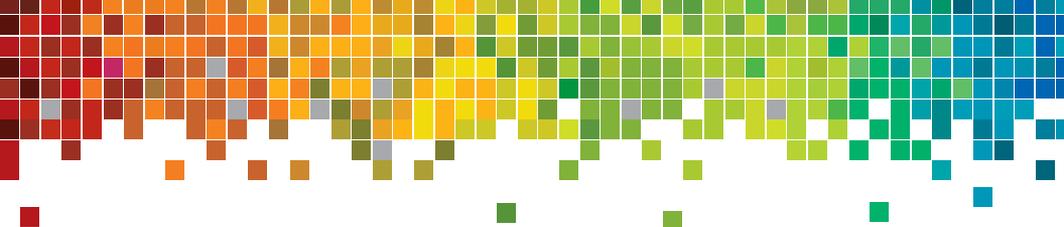
THE UNIVERSITY OF TRINIDAD AND TOBAGO

THE UNIVERSITY OF TRINIDAD AND TOBAGO

# PROFESSIONAL COURSES

2009





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# INTRODUCTION



**Zameer Mohammed,  
Assistant Vice-President –  
Profession Education Unit**

*The University of Trinidad and Tobago (UTT) recently established the Professional Education Unit (PEU) following four years of accelerated growth in several areas of business and industry. We already provide over 150 courses to industry professionals in areas where UTT and its practitioner staff are internationally known. Yet there is much more to come. Through our brochures, press advertisements and web site, we want to keep you up to date on new learning opportunities that can benefit you and your organization.*

*We appreciate very much the support of companies who send their key technical professionals to us to gain advanced knowledge and build competencies for PEU courses and programmes designed specifically for working professionals. Through your support, we will have enrolled more than three thousand professionals across all our programmes during 2008.*

*In 2009 we will add several new programmes and new platforms for instructional delivery. The PEU will continue to enhance our face-to-face delivery with new laboratories, case studies and simulations. Our delivery strategy will be complemented with an enhanced ICT infrastructure that allows learners to access our programmes from remote sites allowing for increased access and participation from working individuals.*

*For 2009 and beyond, our objective is for PEU to grow on all fronts, the number of courses we offer, the number of professionals we enroll, and the number of corporate and industrial clients we serve. We will widen our portfolio to include courses in areas such as alternative energy, nano-materials, fashion jewelry, liquefied natural gas, manufacturing, ICT, leadership and services to further showcase our strengths, whilst meeting the needs of the marketplace.*

*In keeping with the PEU's global outreach initiative, we will also begin offering courses to professionals outside Trinidad and Tobago. The initial emphasis will be on regional hubs in the Caribbean, where we could attract technical professionals from area growth markets and leverage UTT's existing partnerships, staff specialization, and education delivery infrastructure.*

*We will continue to leverage existing research and/or other UTT partnerships to help identify new opportunities for multi-year custom course delivery relationships such as the ones we already have with several oil and gas companies.*

*As we work toward these goals, please stay alert via our brochure, with its new design, and our enhanced web-presence at [www.u.tt/peu](http://www.u.tt/peu).*

*Leadership, Scientific and Technological knowledge changes fast and we are here to help you access and apply the best intellectual capital at PEU to your business and industry needs. Please contact us to discuss how PEU can help you meet the demands of the 21st century marketplace.*



# COMMUNICATIONS STUDIES

# COMMUNICATIONS STUDIES

- **Business Communication and Presentation Skills**
- **Customer Relationship Management**
- **Effective People Skills**
- **International Business Etiquette**
- **Leadership Techniques**
- **Strategic Thinking: A Tool Based Approach**
- **Technical Writing and Presentation Skills**

# BUSINESS COMMUNICATION AND PRESENTATION SKILLS

## DESCRIPTION:

Communication serves people in a variety of ways. It is a complex, interactive process which makes use of, but is not singularly dependent on language. In this context, human language is regarded as an important part of communication.

In the business world, communication fulfils a functional role as well as an individually meaningful role. While communication facilitates the transactions of everyday commerce, it also influences and is influenced by individual attributes, group dynamics and organizational structures. Consequently, communication must be viewed from a variety of perspectives: linguistic, sociological, and behavioural.

Effective communication takes into account personal, contextual, and environmental factors, which have the potential to influence the results of both intended and unintended messages. Specifically, it is important to note that communication styles play a vital role in today's workplace as well as the organizational culture. As citizens of the "global village" which is characterized by "business beyond borders", the knowledge and skills of communication become more imperative for personal and corporate success.

## CONTENT:

- Introduction to Communication
- Listening and Effective Communication
- Verbal and Nonverbal Communication
- Types of Business Writing
- Developing Oral Communication Skills
- Managing Communication Apprehension
- Appreciate the Use of Visual Aids
- Planning and Participating in Productive Meetings

## YOU WILL LEARN:

At the end of the course, participants will be able to achieve the following outcomes:

- Knowledge of how the communication process works.
- Appreciation of the importance of oral and written communication.
- Confidence in their ability to communicate effectively.
- Awareness of the principles that help to assess communication styles of themselves and others.
- Responsiveness to the demands of different communicative situations.
- Skills to enable them to make effective public presentations.
- "Communication competence" for personal and corporate success in the business world.
- Explain how the communication process works.
- Apply knowledge of the communication process to solving communication problems or examining communication issues in the workplace.
- Justify a preferred course of action as opposed to alternative courses of action in a communicative situation.

- Deliver effective oral presentations using appropriate technology on the basis of clearly established principles.
- Evaluate the strengths and weaknesses inherent in a communicative act.
- Hone their overall “communication competence”.

### **TARGET GROUP:**

Administrative assistants, company and sales executives. All persons desirous of improving personal communication skills.

### **INSTRUCTOR:**

UTT Approved Facilitator

### **DURATION:**

The course will be conducted from:

- March 16 – 20, 2009
- July 20 – 24, 2009
- October 26 – 30, 2009

Sessions will be on a full-time basis (Monday’s – Friday’s, 8:00 a.m. – 4:00 p.m.).

### **VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# CUSTOMER RELATIONSHIP MANAGEMENT

## DESCRIPTION:

A dynamic 'interactive' course that spans five (5) days and develops important skills in participants to deliver exceptional service to both internal and external customers. The focus of this course offering is key communication skills, understanding the CORE: Customers, Organization, Representative and Environment, and a solid Six-Step process for successful Sales and Service. This course is the foundation of successful revenue driven organizations.

## YOU WILL LEARN TO:

- Identify internal and external customers and relational requirements.
- Relate the differences and similarities between sales and service in meeting customer requirements.
- Identify, clarify, and provide solutions to customer needs and measure and assure customer fulfillment.
- Manage and grow multiple customer relationships to meet, or exceed business and customer needs requirements.
- Utilize information technology to leverage customer sales and service productivity.
- Understand the role played as the representative of an organization in all customer interactions.
- Develop self-awareness and self-management which are key skills of emotional intelligence.
- Reinforce effective methods for more successful communication skills with all customers.
- Develop better listening skills and emotional intelligence capabilities that foster trust and establish rapport with internal and external customers.
- Recognize the 'moments of truth' and the benefits to customers and the organization, as well as understanding the 'cycle of service' and the importance to the client advocacy position.

## TARGET GROUP:

Administrative Assistants, Communication Officers, Customer Service Professionals, Marketing Officers, Public Relations Officers, Sales Representatives and Technicians.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- January 19 – 23, 2009
- May 11 – 15, 2009
- November 23 – 27, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

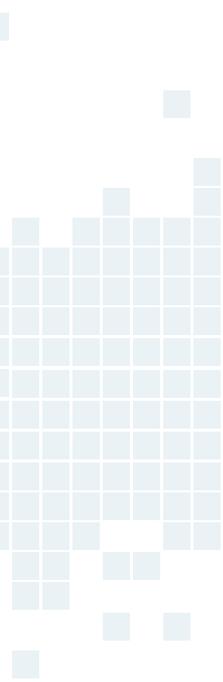
Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# EFFECTIVE PEOPLE SKILLS

## DESCRIPTION:

In the modern work environment, team members and managers alike have an important role in building relationships and sharing information within teams. To build effective relationships and work with others to achieve results, you must develop a range of interpersonal and conflict management skills. Participants will practice active-listening and build their communication techniques, learning to use positive and assertive language to express themselves and manage conflict more effectively. This will give participants the skills to build constructive relationships by practicing the right balance of assertiveness and empathy, whilst also maintaining a focus on the achievement of business outcomes.

## CONTENT:

- Barriers to communication
- Effective listening
- Communicating assertively
- Managing emotions
- Dealing with conflict

## LEARN HOW TO:

- Communicate information and ideas effectively
- Understand communication processes
- Improve communication, interpersonal and listening skills
- Build trust in relationships
- Manage conflict effectively
- Deal with emotions

## TARGET GROUP:

Frontline managers, supervisors and team leaders who need to build effective relationships with others to achieve results and maintain networks within and outside the workplace.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- June 1 – 5, 2009
- October 5 – 16, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### **VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# INTERNATIONAL BUSINESS ETIQUETTE

## DESCRIPTION:

Discover how cultures direct our actions and develop international business etiquette skills. Understanding the different dimensions of culture will allow you to be sensitive to the way others think and behave. The knowledge of etiquette will allow you to conduct yourself and your business with ease and sophistication.

## CONTENT:

- Dealing with international clients.
- Managing delicate and sometimes awkward situations brought on by cross-cultural diversity.
- Preparing for world class meetings.
- Improving your international business relationships and avoid major faux-pas.

## YOU WILL LEARN:

- How our values influence the way we do business
- Communication styles, space and gestures
- Introduction protocols and forms of address
- Handshaking customs and eye contact
- Protocols for business card exchange – beyond the basics
- Email etiquette
- Skills for business and social mingling
- Tips on international dining
- Gift-giving etiquette

## TARGET GROUP:

Business professionals who must conduct business abroad or receive international visitors.  
Executive assistants who have dealings with international clients

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- February 16 – 20, 2009
- August 3 – 7, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# LEADERSHIP TECHNIQUES

## DESCRIPTION:

Deepen your self-awareness with executive leadership training and empower your staff to improve performance!

Optimize the company's performance as well as the participant's own career with executive leadership training. To exhibit real executive leadership, you must be a visionary, a trailblazer, a strategist, a communicator, a coach, a diplomat and a politician. The world's most successful leaders are able to focus on the big picture and uphold high standards while wearing many hats.

This interactive five-day executive leadership-training programme combines proven-in-action techniques with peer interaction and insights from the latest research to help you master the competencies of effective executive leadership.

Executive leadership training can show you how to use your power and influence to achieve goals...build alliances across departments...establish strong working relationships...and create passion in your department, your team and your organization.

## CONTENT:

### *Understanding Today's Executive Leadership Expectations*

- Examining your executive leadership challenges.
- Exploring the fundamental concepts of executive leadership.
- The six styles of effective executive leadership.
- Differentiating between leadership and management.
- Identifying the executive leadership requirements for the 21st century.

### *Leadership with the Head: Exploring the Strategic Elements of Executive Leadership*

- Defining mission, vision and values.
- Focusing on the "big picture" when building the culture.
- The importance of planning and prioritizing in day-to-day activities.
- Taking the time to focus on envisioning the future.
- How a personal vision statement helps you achieve your organizational vision.

### *Leadership with the Hands: Examining Situational Leadership*

- Effectively influencing the performance of others.
- Applying Situational Leadership® in coaching situations: delegating to high-performing employees...properly addressing performance issues.
- Giving positive and constructive feedback: "you" vs. "I" messages.
- Coaching role-plays and other techniques that help you lead the team with effective executive leadership, boost creativity and improve communication, solve problems and make decisions.

### *Leadership with the Feet: Personal Values and Ethics at Work*

- Creating a culture of trusting relationships.
- How individualized "passionate purpose" provides a context for consistency and credibility.

### *Leadership with the Heart: Practicing Ways to Communicate*

- Executive leadership techniques for enhancing pride in the work and the organization
- Motivating the workforce
- Examining the role of "emotional intelligence" in successful executive leadership
- Assessing your "emotional intelligence": your strengths and areas that need development

## YOU WILL LEARN TO:

- Build an executive leadership style that creates trust, sets a clear vision and guides your entire team toward greater performance and profit.
- Gain insights into the key executive leadership skills and techniques you need to create a winning strategy.
- Distinguish what real “coaching” consists of and how to build an extraordinary team that works together to deliver results.
- Develop heightened “emotional intelligence” for greater professional achievement and satisfaction.
- Identify the characteristics of effective leadership and the most common saboteur.
- Develop an executive leadership style that adapts to the person and situation.
- Improve performance through empowerment and effective delegation.
- Clearly communicate mission, vision and value statements.
- Build a cohesive unit that performs well in all situations.
- Apply executive leadership training to continue your growth as a leader through a self-development plan.

## TARGET GROUP:

This course is designed to provide executive leadership training for Mid Level Managers or Executives who lead others with managerial responsibility. It will benefit executives who require strong decision-making skills and the ability to lead and motivate others.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- April 27 – May 1, 2009
- August 17 – 21, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## CERTIFICATION:

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

## COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

## CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# STRATEGIC THINKING: A TOOL-BASED APPROACH

## DESCRIPTION:

This training is a hands-on, case-based course focused on managers responsible for building and sustaining a successful strategic plan. Participants are exposed to a variety of perspectives on, approaches to, and tools for the conduct of strategic management. Applied projects during this course provide opportunities for individualized and team-based learning. Teaching approach follows an iterative process of interactive discussions, application of materials, discussion of results, and re-application of materials to new contexts.

## CONTENT:

- SWOT (strengths, weaknesses, opportunities, threats) analysis
- Scenario analysis and planning
- Rigorous strategic planning methodologies
- Boston Consulting Group (BCG) Growth Share matrix
- BCG Experience Curve
- Bowman's Strategy Clock
- Michael Porter's Value Chain
- Game Theory
- Innovation Acceleration
- Six-Hat Thinking
- Strategic vs Operational Decisions
- Cognition Maps
- Frames of Reference
- Learning Organization
- Double-Loop Learning
- Intellectual Capital Management
- Chaos Theory
- Six Sigma
- Customer and Stakeholder analysis
- Conflict Resolution
- Organizational Network Analysis
- Corporate Culture
- Organizational Systems
- Contingency theory
- Market diversity and niche
- Kotter's Eight Stages of Change

## LEARN HOW TO:

- Summarize, present and discuss strategic management topics and issues.
- Determine the factors that influence organizations to change their level of strategic thinking
- Identify, understand, analyze and evaluate the strategies of their own units/ divisions and other businesses.
- Describe, apply, draw, and defend conclusions from strategic analysis tools

### TARGET GROUP:

Executives, Engineers, Geoscientists and Managers responsible for defining, assessing and developing business alternatives.

### INSTRUCTOR:

PetroSkills Facilitator

### DURATION:

The course will be conducted from March 16-18, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

### VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### CERTIFICATION:

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

### COST:

USD\$3,300.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# TECHNICAL WRITING AND PRESENTATION SKILLS

## DESCRIPTION:

This course is designed to enhance competence in written communication skills in the workplace. Specifically, it focuses on the rudiments of writing proposals and reports to disseminate specialized and researched information within organizations. Participants will be provided with the tools and techniques for planning and researching effective documents as well as skills in gathering and reporting information. Since proposal and report writing is often a group effort, the benefits and potentials problems involved in collaborative writing will also be examined.

## CONTENT:

- Focusing the Technical Project
- Writing the Project Proposal
- Reporting the Progress of the Report
- Drafting the Technical Report
- Producing the Supplementary Parts of the Technical Report
- Revising the Technical Report
- Presenting the Technical Report

## TARGET GROUP:

Plant Managers, Supervisors, Office Managers, Middle Managers, Foremen, Heads of Departments, Senior Technicians, first line leadership personnel, and others charged with the responsibility for writing technical reports and proposals.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- April 27 – May 1, 2009
- August 24 – 28, 2009
- September 28 – October 2, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus, Churchill Roosevelt Highway, Pasea Main Road, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# ICT, PROCESS AND MAINTENANCE STUDIES

# ICT, PROCESS AND MAINTENANCE STUDIES

- **Applied Maintenance Management OM-21**
- **Effective Maintenance Shutdowns OM-43**
- **Gas Turbine Technology**
- **Hydraulics and Pneumatics**
- **Maintenance Planning & Work Control OM-41**
- **Modern Maintenance Management Techniques**
- **Operation, Maintenance and Troubleshooting of Pumps**
- **Programmable Logic Control – Level 1**
- **Programmable Logic Control – Level 2**
- **Principles and Practices of Process Control Systems**
- **Progressing Cavity Pumps**
- **Supervisory Control and Data Acquisition – SCADA**

# APPLIED MAINTENANCE MANAGEMENT OM-21

## DESCRIPTION:

This course provides essential knowledge required for achieving excellence in maintenance management. Work control, planning, and scheduling will be covered. Participants will receive a sound, integrated, basic knowledge of the maintenance function and how to progress towards a world-class performance. Individual action plans will carry course learning into the work environment. Better utilization of Computerized Maintenance Management Systems (CMMS) will be covered in this course. A pre and post seminar self-assessment will be given to indicate participants competence improvements. The assessment is taken from the PetroSkills industry standard competency map for Maintenance Management.

## CONTENT:

- World Class Standards
- Maintenance Strategies
- Planning and Scheduling
- Optimizing Preventative and Predictive Maintenance
- Identifying Critical Equipment
- Using your Computerized Maintenance Management System (CMMS)
- Supplier Certification
- Developing Organizational Competence
- Presenting your Action Plan

## YOU WILL LEARN:

- World class standards and how to apply them
- Key Performance Indicators for your dashboard
- Essential elements of work planning and scheduling
- Optimization of Preventative and Predictive maintenance
- How to focus your resources on critical equipment
- How to work with contractors more effectively
- Organizational competence

## TARGET GROUP:

All maintenance personnel who are supervisors or above (including team leaders and managers) who would like to improve the quality of the maintenance function. This course is a broad survey of essential aspects of maintaining a safe, efficient and integrous facility asset.

## INSTRUCTOR:

John M. Campbell Facilitator

**DURATION:**

The course will be conducted from October 12-16, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a John M. Campbell (PetroSkills Facilities) Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# EFFECTIVE MAINTENANCE SHUTDOWNS OM-43

## DESCRIPTION:

This course is designed to teach the skills of maintenance shutdown management as described in Campbell's Competency Map. You will develop shutdown planning strategies as well as the organizational structure necessary for managing successful shutdowns. Case studies and real world examples will be used to reinforce the techniques learned in the course. Participants will be asked to bring examples from their maintenance shutdown experiences to be used as case studies during the course.

## CONTENT:

- Maintenance shutdown terms and basics.
- Shutdown planning strategy: establishing goals and objectives, working cooperatively across departments, developing maintenance shutdown procedures.
- Management planning: components of the maintenance shutdown plan, planning for effective communications.
- Developing a management strategy, organization, and responsibilities.
- Work scope development and strategy.
- Planning and scheduling controls: participation and teamwork, the overall plan, specifying tasks, shutdown and start-up plans, work scheduling, optimizing the plan, handling emergent work, work control documents.

## LEARN HOW TO:

- Develop and control a maintenance shutdown work scope
- Control work before and during the maintenance shutdown
- Use available computerized scheduling tools
- Use manpower planning and control
- Measure progress of the maintenance shutdown
- Manage worker productivity
- Measure maintenance shutdown performance
- Improve performance on future maintenance shutdowns

## TARGET GROUP:

All engineering, maintenance and operations personnel responsible for planning and managing effective maintenance shutdowns. Participants should have foundation skills in maintenance planning and scheduling.

## INSTRUCTOR:

John M. Campbell Facilitator

## DURATION:

The course will be conducted from August 10-14, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a John M. Campbell (PetroSkills Facilities) Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# GAS TURBINE TECHNOLOGY

## DESCRIPTION:

The operation, maintenance and overall costs of Gas Turbines are dramatically influenced by operating profile, fuels and environment. Users of such equipment require specialist knowledge to make the right decisions concerning the most appropriate maintenance and operation strategy. This course takes a practical approach to aspects related to turbine operation and maintenance.

## CONTENT:

### 1. *The General Gas Turbine Engine*

- Introduction
- Operating Cycles
- Applications

### 2. *Gas Turbine Engine Components*

- Compressors
- Combustors
- Turbines
- Accessories

### 3. *The Gas Turbine as an Energy Transforming Machine*

### 4. *Aerodynamics of Gas Turbine Engines*

### 5. *Engine Performance, Specifications and Trend Monitoring*

### 6. *Gas Turbine Engine Maintenance*

- Safety
- Boroscope Inspection of Hot Section Components
- Fuel Nozzle Cleaning
- Frequency of Inspections

### 7. *Engine Applications*

### 8. *Component Inspection*

- Combustors, NGV's, Turbine, Compressor

## LEARN HOW TO:

- Identify Gas Turbines engine components, cycles of operation and applications.
- Analyze energy transformations and fluid flow characteristics within Gas Turbine Engines.
- Evaluate Gas Turbine performance and specifications.
- Maintain, operate and troubleshoot gas turbine engines.
- Perform on-condition monitoring.
- Evaluate gas turbine engine proposals for purchase or overhaul.

### TARGET GROUP:

Engineers, Supervisors and Technicians responsible for maintenance/repair of Plant and Equipment.

### INSTRUCTOR:

UTT approved facilitator.

### DURATION:

The course will be conducted from:

- January 26 – 30, 2009
- May 18 – 22, 2009
- November 16 – 20, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# HYDRAULICS AND PNEUMATICS

## DESCRIPTION:

This five-day course will provide an introduction to the fundamentals of power hydraulics and control technology. It will give participants the opportunity to gain knowledge of the physical interrelationships between the most basic circuits in hydraulics. The course also takes a practical approach to aspects related to the operation and maintenance of related systems.

## CONTENT:

### A. HYDRAULICS

- Tasks of a hydraulic installation
- Fundamental principles of hydraulics
- Hydraulic fluid and fluid conditioners
- Components of a hydraulic system
- Graphic symbols and schematic diagrams
- Design and representation of a hydraulic system
- Characteristics of valves and other hydraulic components
- Hydraulic pumps and actuators
- Measurement of variables such as pressure, flow rate and time
- Accessories – flexible hoses, pipelines, sub-bases, bleed valves, pressure gauges, pressure sensors, flow measuring instruments

### B. PNEUMATICS

- Characteristics and applications of pneumatics
- Components of a pneumatic system
- Symbols and standards in pneumatics
- Methods for the development of pneumatic systems
- Development of single actuator circuits
- Development of multiple actuator circuits
- Troubleshooting of pneumatic systems
- Fundamentals of pneumatics
- Air generation and distribution
- Actuators and output devices
- Directional control valves
- None-return, flow and pressure valves, valve combinations
- Systems
- Solutions

## LEARN HOW TO:

- Define the uses and functions of hydraulics and pneumatics components.
- Interpret graphic symbols and circuit diagrams.
- Perform calculations of area ratios, forces, power and speed.
- Assemble and commission control circuits.
- Assess energy consumption required by hydraulic and pneumatic systems.
- Apply the basic principles of hydraulics and use of hydraulic equations.
- Troubleshoot and diagnose hydraulic and pneumatic systems.
- Disassemble and assemble hydraulic components.

### TARGET GROUP:

Engineers, Supervisors, Technicians, Maintenance Personnel and Operators responsible for the maintenance and repair of hydraulics and pneumatics.

### INSTRUCTOR:

UTT Approved Facilitator.

### DURATION:

The course will be conducted from:

- April 20 – 24, 2009
- August 10 – 14, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# MAINTENANCE PLANNING & WORK CONTROL OM-41

## DESCRIPTION:

This course is designed to build competency in Work Control as a primary skill set in the Competency Map for Facilities Maintenance Management. It will focus on the six phases of work management (work identification, planning, prioritization, scheduling, execution and history capture). A pre/post self assessment will be used to measure competency improvement. Each participant will develop an action plan to help their organizations become more efficient and safer.

## CONTENT:

- Work Identification
- Planning
- Prioritization
- Scheduling
- Execution
- History Records
- Optimizing Preventative Maintenance
- Predictive Maintenance Planning
- Critical Equipment Focus
- Emergency Response

## LEARN HOW TO:

- Develop world class planning and work control.
- Employ business process analysis techniques in work control.
- Use a gap analysis on your work management system.
- Apply a step-by-step work control from identification through using work history.
- Optimize preventative and condition-monitoring activities.
- Use techniques critical to equipment analysis, critical spares control, and emergency response work.

## TARGET GROUP:

Maintenance managers, planners, superintendents, supervisors and team leaders who are engaged in work management, planning, and scheduling. These essential skills are the key components of integrity management, safety, resource control, and reliable operation.

## INSTRUCTOR:

John M. Campbell Facilitator

## DURATION:

The course will be conducted from July 27-31, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a John M. Campbell (PetroSkills Facilities) Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# MODERN MAINTENANCE MANAGEMENT TECHNIQUES

## DESCRIPTION:

This five-day course promotes a better understanding of the value of the maintenance function and potential areas for improvement. It will further promote the understanding of current trends and industry best practices in maintenance, illustrate the major components of maintenance and interrelationships with other functions identify the major business processes of maintenance and explain developments in the area of maintenance planning.

## CONTENT:

### *Introduction to Maintenance*

- What is Maintenance
- A History of Maintenance
- Current Approaches to Maintenance

### *The Business of Maintenance:*

- Maintenance as a Business Process
- The Organization of Maintenance
- Resources for Maintenance

### *Maintenance Methodologies:*

- The Optimum Maintenance Programme
- Introduction to RCM
- Introduction to Predictive Maintenance
- Introduction to Preventive Maintenance

### *Information Systems in Maintenance*

- Information Systems Evolution
- Selecting the right System
- Monitoring for Continuous Improvement

### *Managing Risk:*

- Risk Assessment and Management
- Dependability
- Quality

### *Managing Change (New Concepts)*

- Challenge your Paradigm

## YOU WILL LEARN TO:

- Develop and refine your maintenance management programme.
- Sharpen your Practical, Planning, Evaluating, Coordinating and Record Keeping Skills.
- Integrate modern techniques into corporate strategy.
- “Win the war” against the rising cost of down-time.
- Enhance bottom-line profitability.

### TARGET GROUP:

Engineers, Supervisors and Technicians responsible for maintenance and repair of Plant and Equipment.

### INSTRUCTOR:

UTT Approved Facilitator

### DURATION:

The course will be conducted from:

- March 9 – 13, 2009
- July 27 – 31, 2009
- October 12 – 16, 2009

Sessions will be on a full - time basis (Monday's – Friday's 8:00 a.m. – 4:00 p.m.)

### VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# OPERATION, MAINTENANCE AND TROUBLESHOOTING OF PUMPS

## DESCRIPTION:

This training course addresses factors that prevent pumps from achieving their optimum performance and life. Starting with an understanding of fluids and applications, the course also details specifications, design and correct pump type selection, as well as, operating, troubleshooting and care of pumping machinery.

Understanding the pump hydraulics, sealing and bearing lubrication make this a complete pump course. Participants will also be taken through problem solving and troubleshooting methods and have the opportunity during a workshop session to discuss their own pumping problems.

This course is aimed at personnel who have some knowledge of pumps and their operation and who have a need for expanding that knowledge. A refresher is given of pump hydraulics and pump styles but emphasis of the course is on ensuring that the pump matches the process and providing information on preparing specifications enabling the correct pump to be purchased. The practical aspects of installation commissioning, operation, and problem solving on existing installations are also discussed.

## OBJECTIVES:

- Develop the skills to match pumps to process specification.
- Gain an appreciation of the pump types and design aspects of available pumps.
- Understand the requirements for trouble free bearing and mechanical seal operation.
- Reduce pumping costs by keeping pumps operating at maximum efficiency with minimum maintenance.
- Effectively troubleshoot pumping problems by a logical approach.

## EXPECTED OUTCOME:

- Understand the important properties of fluids for pumping.
- Discover how pumps and systems really work.
- Look at the whole range of pumping types and options.
- Gain an appreciation of the important aspects of pump mechanical design.
- Understand how mechanical seals work.
- Understand the requirements for trouble free bearing performance and lubrication in pumps.
- Gain an insight into pump installation, monitoring, maintenance and troubleshooting for good reliable pump operation.
- The application of high-speed and complex pumps.

## TARGET GROUP:

New Engineer Graduates, Supervisors, Technologists and Technicians.

### **INSTRUCTOR:**

UTT Approved Facilitator

### **DURATION:**

The course will be conducted from:

- April 20 – 24, 2009
- August 3 – 7, 2009
- November 9 – 13, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### **VENUE:**

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# PROGRAMMABLE LOGIC CONTROL - LEVEL 1

## DESCRIPTION:

This course addresses the fundamental and basic devices/systems used in a typical PLC environment. More specifically, it emphasizes Input/Output (I/O) devices used to monitor and control processes, typical software used in the Industry and Basic Programming; Hands-on approach to Troubleshooting and Maintenance of the PLC.

## YOU WILL LEARN:

- To identify the major components of a PLC System.
- To apply guidelines for installing and wiring a PLC System.
- How PLC Systems are configured and setup.
- How to determine the direct and indirect addressing of the CPU Memory areas.
- How to determine the proper input/output addressing for a PLC.
- How to demonstrate the function and application of Instruction set and PLC Ladder Programmes.
- To analyze and edit working PLC Programmes online.
- How text or documentation can be attached to the ladder logic.

## TARGET GROUP:

Engineering Personnel, Skilled Craftsmen, Technicians and other interested persons.

## INSTRUCTOR:

UTT Approved Facilitator.

## DURATION:

The course will be conducted from:

- January 17 – February 14, 2008 (Saturdays only)
- June 6 – July 4, 2009 (Saturdays only)

Sessions will be on a part - time basis (Saturday's 8:00 a.m. – 4:00p.m.)

## VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

## CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

## COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

## CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# PROGRAMMABLE LOGIC CONTROL - LEVEL 2

## DESCRIPTION:

This course addresses the PLC Instruction set, sequencer instructions, process control loops and analog input/output modules. It also illustrates PLC from an online programming and troubleshooting perspective. Descriptors and report generation are also incorporated into the course.

## CONTENT:

- PLC Instruction Set
- Sequencer Instructions
- Process Control
- Analog Input/Output Module
- On-line Programming and Troubleshooting
- Descriptors and Report Generation

## LEARN HOW TO:

1. *Design and verify the operation of practical industrial PLC programmes using the following instructions:*
  - Compare Instructions
  - Data Conversion
  - Math/Compute Instructions
  - Programme Control Instructions
  - Jump and Label
  - Subroutines
  - Shift and Rotate Instructions
  - Move Instructions
  - Table Instructions
2. *Verify the operation of the sequencer output instruction.*
3. *Analyze the operation of a sequencer input instruction.*
4. *Design and verify the operation of practical programmes using sequencer instructions.*
5. *Explain the components of a process control loop*
  - Sensor
  - Transmitter
  - Controller
  - Transducer
  - Final control element
6. *Define the parameters associated with a process control loop.*
  - Process control loop
  - Process variable
  - Error
  - Control variable
7. *List the electrical and pneumatic control signals used by process control systems.*
8. *Explain the features of the input/output module and how it is hardware configured.*
9. *Define the PLC addressing associated with each module.*
10. *Describe the block transfer read and block transfer write instructions, which are required to programme the modules.*

11. Connect input and output devices to simulate process and control variables.
12. Design and verify PLC programmes using the modules.
13. Download PLC programme from the terminal into the PLC processor.
14. Display and monitor the status of the I/O devices and programme instructions.
15. Edit working programmes on line.
16. Troubleshoot working PLC programme by using the force instruction.
17. Attach tags or descriptors to programme instructions.
18. Attach rung descriptors to each rung.
19. Insert section headers into the PLC programme.

### TARGET GROUP:

Engineering Personnel, Skilled Craftsmen, Technicians, persons who have completed PLC Level I and other interested persons.

### INSTRUCTOR:

UTT Approved Facilitator.

### DURATION:

The course will be conducted from:

- March 7 – April 4, 2009 (Saturdays only)
- September 5 – October 3, 2009 (Saturdays only)

Sessions will be on a part-time basis (Saturday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# PRINCIPLES AND PRACTICES OF PROCESS CONTROL SYSTEMS

## DESCRIPTION:

A frequent cause of process/production plant inefficiency is the mis-application and improper tuning of PID control loops. This course instructs in the theory that governs most of the common process control strategies employed in industry. The core coverage is the PID algorithm and its various implementation forms. Industry standard laboratory equipment will be used to provide extensive hands-on-experience.

## YOU WILL LEARN:

- How to classify different types of process loops for control.
- To explain and determine process loop dynamics.
- Time constant, Dead time, gain, capacity.
- To explain the effect of and compute control valve and transmitter gain.
- How to apply knowledge of process dynamics in controller algorithm selection.
- How to apply knowledge of process dynamics to perform control loop tuning.
- To use methods such as  $\frac{1}{4}$  decay method, Ziegler-Nichols method and other approaches
- How to evaluate the performance of controller combinations (cascade, ratio, override).
- To explain feed-forward control.
- How to investigate control algorithms used in computer control systems.
- To describe adaptive and self-tuning methods.

## TARGET GROUP:

Chemical, Electrical and Mechanical Engineer Graduates, Engineers, Maintenance Personnel, Operators, Supervisors and Technicians; Instrumentation and Control Technicians/Practitioners; and or persons with demonstrated knowledge of instrumentation and control training.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- March 2 – 6, 2009
- July 13 – 17, 2009
- November 2 – 6, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### **CERTIFICATION:**

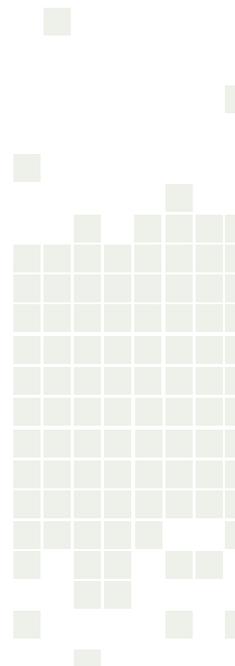
Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# PROGRESSING CAVITY PUMPS

## DESCRIPTION:

Progressing Cavity Pump technology is the fastest evolving artificial lift technology in our industry. PCPs are highly efficient, have higher tolerance to sand or solids than most other lift methods and are relatively inexpensive to install and operate. PCPs have been developed that can pump at rates in excess of 4000 bfpd, operate in high temperature environments, handle highly viscous crude, operate with THD in excess of 6000ft, and produce in deviated wells. This course will allow the user to become familiar with the PCP system and where PCP technology may be applicable. All components of the PCP system will be described and discussed in detail. The key steps taken to ensure correct elastomer selection and rotor fit will be discussed. Design and analysis problems will be performed using standard industry software. The participant will learn the function of the various components, and the concerns about installation, operation, and removal of failed equipment.

## CONTENT:

- Introduction to artificial lift and progressing cavity pumps.
- Introduction to reservoir and production considerations.
- Description of all components of the progressive cavity pump starting at the surface to the pump; transformers; VSD; drivehead; breaking system; wellhead; rods; co-rod; centralizers; pony rod; stator; rotor; tubing anchor; intake/gas separator; downhole sensor.
- Installation considerations and cautions.
- Design of a PCP system to fit current and future well conditions.
- Operation and monitoring the PCP system, set-up of system protection.
- Diagnosis and troubleshooting of the PCP system.
- Removal of failed equipment and failure analysis.
- PCP instrumentation, automation and control.
- Data storage and archival.
- Maintenance and Monitoring.

## LEARN HOW TO:

- Identify components of the PCP system.
- Evaluate applicability compared to other artificial lift methods.
- Design and analyze a system using up to date computer programs.
- Combat gas, pump off, solids, corrosion and viscosity in the produced fluids.
- Review a proposal from equipment suppliers.
- Prolong system life by using best practice.
- Diagnose and troubleshoot well and pump problems resulting in lost production.

## TARGET GROUP:

Engineers and field technicians who are responsible for the selection, operation and maintenance of PCP systems.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from June 22-26, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# SUPERVISORY CONTROL AND DATA ACQUISITION - SCADA

## DESCRIPTION:

Participants will be provided with a clear understanding of what is DCS and SCADA. Attention will be paid to the components that comprise any DCS/SCADA system and how they achieve the plant wide control via the operator interface. A combination of practical exercises, case studies, and related theory comprise the learning activities to satisfy the course objectives. Participants will be exposed to the latest control system products from selected industry leaders. Participants should at least be familiar with the concept of feedback control and the PID algorithm. This is NOT an instrumentation course; it assumes participants have some prior education or learning in process control systems.

## CONTENT:

1. *Computer Control System documentation standards*
  - ISA 5.1 - P&ID
2. *Classification of computer control systems*
  - Direct digital control, Supervisory control, Distributed Control.
3. *What is SCADA?*
  - Typical processes suitable for SCADA
  - Components of a SCADA system.
  - Typical Architecture
4. *Real-time control.*
  - What is real-time?
  - Evaluating the Scan Interval
5. *Communications fundamentals.*
  - Communication Media
  - Modulation Overview
  - Modems
  - Popular SCADA protocols
  - Data Communications primer
6. *Remote Terminal Units*
7. *Master Terminal Units*
8. *Human Machine Interface software*

### TARGET GROUP:

Chemical, electrical and mechanical engineers graduates, instrumentation and control technicians/practitioners, maintenance personnel, operators, supervisors, technicians and or persons with demonstrated knowledge of instrumentation and control training.

### INSTRUCTOR:

UTT Certified Facilitator.

### DURATION:

The course will be conducted from:

- February 16 – 20, 2009
- June 1 – 5, 2009
- December 14 – 18, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Pt. Lisas Campus – Brechin Castle, Esperanza Road, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# MANAGEMENT, SAFETY AND EVALUATION STUDIES - BASIC

# MANAGEMENT, SAFETY AND EVALUATION STUDIES - BASIC

- Assessor / Coaching Training
- Basics of HSE Management
- Contract Management
- Developing Leaders in the Workplace
- Events Management
- Fundamentals of Finance and Accounting
- Fundamentals of Purchasing
- Inventory Management
- Managing Budgets and Financial Plans
- Managing People for Performance
- Project Management for Professionals
- Risk Based Process Safety Management
- Introduction to Implementing Safety and Health Management System
- Strategic Planning and Implementation
- Supervisory Management
- The New Supervisor
- Train the Trainer

# ASSESSOR / COACHING TRAINING

## DESCRIPTION:

There is an ongoing need for Registered Workplace Assessors due to current growth in the use of Standards as part of training, assessment of competence. Registered Workplace Assessors are people who are able to confirm that specified tasks have been completed to required standards as determined by their industry.

## CONTENT:

- Defining the assessment input
- Responsibilities
- The assessment process
- Assessment vs. auditing
- Recording the assessment output
- Determining ratings
- Validation of ratings
- Presentation of assessment results
- Selection and use of assessment models, methods and tools

## YOU WILL LEARN:

- The Assessment Process and Model
- How to perform assessments
- How to define the competency requirements of assessors
- How to use the assessment model

## TARGET GROUP:

General managers, quality/change professionals

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- January 5 – 9, 2009
- May 4 – 8, 2009

Sessions will be on a full - time basis (Monday – Friday, 8:00 a.m. – 4:00 p.m.)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# BASICS OF HSE MANAGEMENT

## DESCRIPTION:

Recognition and proper management of health, safety and environmental risks is fundamental to all management and professional roles in the industry. This course aims to equip participants with the underpinning knowledge relating to the concepts of an effective HSE management system and the key elements required for successful implementation.

The course is based upon a common HSE management system model (OGP, or tailored as required for in-house courses), and explains the basic elements and interaction. A variety of exercises, reading, videos and case studies will be used to understand and practice the leadership, communication, implementation, monitoring, corrective action, audit and review tools generally used in HSE management systems.

## CONTENT:

- Leadership and Commitment
- Policy and Strategic Objectives
- Legislation and Regulation
- Organization, Responsibilities, and Resources
- Professional Training and Behaviours
- Risk Assessment and Management
- Planning and Procedures
- Contractor Controls
- Security
- Emergency Response
- Performance Management
- Incident Reporting and Investigation
- Audit
- Management Review

## YOU WILL LEARN:

- The principle elements of a health and safety management system, and how these interact to promote continual improvement in HSE management.
- About ISO 14001, OHSAS 18001 and other commonly used HSE management systems.
- Key tools associated with risk assessment, risk control and active/reactive monitoring.
- The roles and responsibilities of individuals within the management system and how they can effect the safety culture of the organization.

## TARGET GROUP:

This course is designed for all staff in the oil and gas and petrochemical industries, requiring a basic awareness of health, safety and environmental (HSE) management including: Operations, Engineers, Supervisors, Project managers and aspiring HSE professionals. It is a core (101) course for any persons who can influence HSE Management within the organization and is also ideal for anyone new to the industry with no prior HSE management knowledge.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from March 16-20, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# CONTRACT MANAGEMENT

## DESCRIPTION:

Contract Management provides participants with a practical insight into the nature of contract law and professional liability, applied to various types of projects and workplace situations. This course seeks to identify and emphasize each of the phases and situations that arise in the contract management process to better manage and control business outcomes. In addition, current topical issues such as dispute/partnering/issue resolution and compensation for negotiations and tender submissions are addressed. The various roles of significant players in contracts will be discussed and techniques highlighted to assist best practice in the handling of contracts.

## CONTENT:

Managerial law environmental framework – the construct

- The secret life of a contract
- Partnering
- Dispute management
- Specification
- Tender process

## LEARN HOW TO:

- Analyze the complex and interrelated issues associated with contract management and know when to call for professional advice.
- Identify potential situations which may have undesirable legal consequences and negatively impact upon the project outcomes.
- Manage and control the contractual environment of projects and workplaces issues and activities.

## TARGET GROUP:

Professionals from a wide variety of industries, who aspire to gain a better understanding of contract management.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- April 27 – May 1, 2009
- August 10 – 14, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

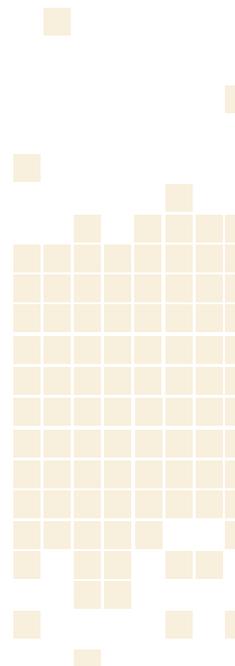
Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# DEVELOPING LEADERS IN THE WORKPLACE

## DESCRIPTION:

This course looks at effective leadership practices and focuses on the implications for leaders. Participants will be guided through the contemporary ideas and elements of providing leadership in the workplace, and will be encouraged to develop a greater understanding of themselves and the impact of their leadership on others.

## CONTENT:

- Analysis of your leadership philosophy
- Developing transactional and transformational leadership practices
- Leader self-efficacy
- Issues of values and ethics in leaders
- Strategies for change
- Mentoring others
- Motivation theories and practice
- Building trust and integrity
- Situational leadership
- Group and individual decision making
- Leadership styles and role modeling
- Implementing and monitoring decisions

## LEARN HOW TO:

- Implement the organization's standards and values.
- Influence individuals and teams positively.
- Clarify your own approach to leadership.
- Use specific skills to build group cohesion and improve communication.
- Develop analytical and systems thinking to improve leadership effectiveness.

## TARGET GROUP:

Coordinators, frontline managers, supervisors and team leaders seeking to improve their influence with others and skills in leading and working in teams.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- May 25 – 29, 2009
- September 28 – October 2, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# EVENTS MANAGEMENT

## DESCRIPTION:

This course is designed to provide a foundation of key skills and knowledge associated with the creation and delivery of corporate (e.g. product launches, conferences, functions, fundraising events), private (e.g. parties, weddings) and public events (e.g. festivals, fairs and sporting events).

## OBJECTIVES:

The focus of this course is on developing an understanding of the theory and practice of creating and delivering various types of events. The course content is based on the results of an extensive survey of event management professionals. It will be delivered by employing a mix of informative lectures with accompanying notes, class exercises to put into practice the core teachings and tools and case studies that show how the skills are applied to real projects and events.

## TARGET GROUP:

Mid-level managers looking to tighten their skills and improve processes, event executives looking to develop their skills and knowledge, marketing managers looking to move into event management, marketing managers taking on responsibility for event management within their role, venue managers looking to provide added value to clients and graduates looking to get a better understanding of event management.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- May 18 – 22, 2009
- September 7 – 11, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

## CERTIFICATION:

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

## COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

## CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# FUNDAMENTALS OF FINANCE AND ACCOUNTING

## DESCRIPTION:

This course will provide a solid foundation in the principles of finance as they apply in the real world, without resorting to jargon. Participants will develop an understanding of how finance works in business, how finance measures performance, how financial decisions impact upon performance, how to set and manage budgets and how to use finance skills to drive a business forward.

## YOU WILL LEARN:

- Basic accounting principles
- Key finance terms: assets, liabilities, capital, depreciation, capitalization, current ratio and others
- The accounting process: journals and ledgers, debits and credits
- To use the balance sheet to examine assets and liabilities
- How to analyze the income statement to assess revenues and expenses
- The statement of cash flow: sources and uses of funds
- Debt vs. equity financing
- How to keep your plan on target with budgetary controls
- To use profit-planning tools, break-even analysis, financial forecasting
- Cash flow: where cash comes from and how it's applied
- Elements of cost accounting
- Personal financial planning tips

## TARGET GROUP:

This course is designed for non-financial executives and managers in every functional area of responsibility, in all industry types, including private, public and non-profit sectors.

## INSTRUCTOR:

UTT Approved Facilitator.

## DURATION:

The course will be conducted from:

- March 23 – 27, 2009
- July 6 – 10, 2009
- December 7 – 11, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# FUNDAMENTALS OF PURCHASING

## DESCRIPTION:

A fundamental course for new buyers looking to acquire the “must-have” basics of purchasing. Walk through every step of the purchasing, negotiating, vendor and materials management process. Find innovative ways to manage your suppliers so they deliver quality products and services on time and within your budget. Learn how e-procurement can help you save money and exploit sales opportunities and understand the legal aspects of purchasing.

## CONTENT:

- Purchasing techniques
- Effective negotiations and planning
- The ethical/legal aspects of purchasing and its possible liabilities
- Selecting and qualifying suppliers
- Becoming a more efficient and productive buyer

## YOU WILL LEARN:

- The buyer’s responsibilities in today’s purchasing organization
- How purchasing adds value to the firm
- Supplier relations approaches
- Ethics and purchasing policy
- How to manage the procurement process
- About RFQs, RFBs, PFPs, and supplier selection
- About price, cost and total cost of ownership
- The legal aspects of buying and selling
- Details of the purchasing agreements and contracting methods
- Management skills for the buyer
- Purchasing tools and techniques for optimum results

## TARGET GROUP:

New buyers and experienced buyers who want to review and update basic techniques, as well as buyers in service, projects, manufacturing, distribution, maintenance and health care. Finance and accounting and sales personnel will also find great insight and value.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- January 26 – 30, 2009
- July 6 – 10, 2009

Sessions will be on a full-time basis (Monday’s – Friday’s, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# INVENTORY MANAGEMENT

## DESCRIPTION:

This course reflects the logical flow of the processes involved in inventory management and covers areas such as defining, receiving, issuing and replenishing items.

## CONTENT:

- Inventory Defined
- Types of Inventory
- The Inventory Problem
- Costs Associated With Holding Inventory (K-Cost)
- Why Hold Inventory
- Nature of Inventory Management
- Inventory Management VS Inventory Control
- Objectives of Inventory Management
- Skills and Competencies of Inventory Management Personnel
- The Inventory Manager as Money Manager
- Inventory and the Balance Sheet
- Profit Impact of Good Inventory Management
- Costing Inventory
- Stock Control Methods & Methodology
- Inventory Demand Profile
- What To Buy
- When To Buy
- How Much To Buy
- Replenishment Systems
- Forecasting Techniques
- ABC Analysis In Inventory Management
- Economic Order Quantity Model
- Standardization
- Variety Reduction
- Physical Stock Taking
- JIT Inventory Management
- Stock Classification
- Stock Coding Systems
- Physical Warehouse Layout
- Inventory Disposal Systems
- Fraud
- Phased-In Stocking Criteria

### YOU WILL LEARN:

- The nature of Inventory Management
- Skills and Competencies of Inventory Management Personnel
- The process of Inventory Management
- Inventory Management Strategies for cost reduction and Profit Maximisation
- Coding of Stock
- How to use Inventory Management as a control mechanism
- Inventory as it relates accounts
- The benefits of Inventory Management

### TARGET GROUP:

Control purchasing, distribution, logistics and material inventory professionals at all levels

### INSTRUCTOR:

UTT Approved Facilitator

### DURATION:

The course will be conducted from:

- February 16 – 20, 2009
- June 1 – 5, 2009
- November 30 – December 4, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### CERTIFICATION:

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# MANAGING BUDGETS AND FINANCIAL PLANS

## DESCRIPTION:

Managing a business unit's finances is a crucial part of a manager's role. This course provides an overview of a range of budgeting and financial planning activities and how they relate to an organization's strategic goals. It is designed to give participants an understanding of the budget cycle and the skills required to set and monitor the performance of a budget at the business unit level.

## CONTENT:

- Budgets and strategy
- Types of budgets
- Developing a budget
- Implementing a budget
- Monitoring a budget

## LEARN HOW TO:

- Set financial goals
- Identify different types of budgets
- Understand the budget cycle
- Develop business unit budgets
- Monitor performance against budget

## TARGET GROUP:

Supervisors and team leaders with financial or budget responsibilities who are seeking to improve their financial decision-making skills and increase their knowledge of budgeting processes.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- June 1 – 5, 2009
- October 12 – 16, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# MANAGING PEOPLE FOR PERFORMANCE

## DESCRIPTION:

This course takes a fresh approach to achieving performance beyond expectations. The traditional emphasis on annual performance 'appraisal' is departed and greater focus is placed on an ongoing organizational performance 'management' system. The course is supported by case studies and the practical application of tested tools and techniques. It will enable participants to develop a personal coaching effectiveness profile, and produce a personal action plan for enhanced performance management of employees.

## CONTENT:

### **The role of the manager**

Many managers err in not seeing themselves as active players in high-performance teams. In fact, teams should be owned by all their members, including the manager who then plays key role in setting the climate for the development of teams. This key role, covered in this section of the course, includes communicating effectively, sharing information and recognising the performance of individuals in the team.

### **Managing performance**

Managing the performance of the team and its individuals is often the aspect of management that is the most intangible, and can make or break your own performance as a manager. It is the function that also, when handled well, indicates management excellence. Here, the five areas of Performance Management are defined, including strategies to maximize your success in all of them.

### **Effective performance appraisals**

Effective performance appraisal systems contain two basic systems operating in conjunction: an evaluation system and a feedback system. The main aim of the evaluation system is to identify the performance gap (if any), which is the shortfall that occurs when performance does not meet the KPIs or acceptable standards set by the organization. The main aim of the feedback system is to inform the employee about the quality of his or her performance. Managers should also take this opportunity to receive feedback from the employee about issues or problems that they experience. This section covers the effective appraisal systems in-depth, as both a crucial monitoring and information-sharing tool.

### **Managing the performance of the under achiever**

Most people want to succeed and perform in all aspects of their role. The key to managing underachievers is to recognize factors contributing to their performance - both personal factors and organizational ones. This section provides a holistic view of low performance in the workplace, including how to approach underachievers, and how to learn as an organisation from low performance teams or individuals.

### **Counseling styles and skills**

Without strong interpersonal skills, you may find it difficult to manage the performance of your staff. In fact, the problem-solving skills required for successful performance appraisal interviews are similar to those required by professional counselors. This section provides you with the skills to be able to establish a rapport with staff so that they see you as an ally rather than the enemy.

### LEARN HOW TO:

- Appreciate the need for effective performance standards.
- Distinguish between behavioural and results-focused objectives.
- Develop and use a performance management process incorporating performance reviews.
- Use effective techniques for gaining agreement on performance improvement options.
- Appreciate the need for follow-up on performance improvement strategies.
- Demonstrate performance management skills in a range of situations.

### TARGET GROUP:

Managers who wish to motivate, develop, and maximize the performance of their teams and individuals.

### INSTRUCTOR:

UTT Approved Facilitator

### DURATION:

The course will be conducted from:

- May 11 – 15, 2009
- August 17 – 21, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

### CERTIFICATION:

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### COST:

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# PROJECT MANAGEMENT FOR PROFESSIONALS

## DESCRIPTION:

Project Management is key to achieving greater results while minimizing costs and effort, project management has taken on a very significant role. One of the key functions in the management of a project is the deployment of the necessary human and financial resources in order to achieve specific objectives within time, cost and quality parameters. This course will focus on approaches to Project Management, Planning, Financing and Evaluation. It will also look at Project Management as it relates to the Management of the Change Process.

## CONTENT:

- Project organization and teams
- Politics of projects
- Avoiding project disasters
- The Project Management Life Cycle
- Measuring Project Success
- Management of the five (5) major areas of a project
- Five (5) principles of good project management
- Logical Framework.

## LEARN HOW TO:

- Manage the translation of the company's strategic plan to operational plans or projects.
- Manage the company's operations using the Project Management Approach.
- Apply problem solving and decision making techniques in the management of projects.
- Apply IT in the management of projects.

## TARGET GROUP:

Construction Supervisors, Engineers, Project Analysts, Project Managers, Supervisors and personnel associated with project design, implementation and evaluation.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- February 2 – 6, 2009
- May 25 – 29, 2009
- September 14 – 18, 2009

Sessions will be on a full - time basis (Monday's – Friday's 8:00 a.m. – 4:00 p.m.)

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

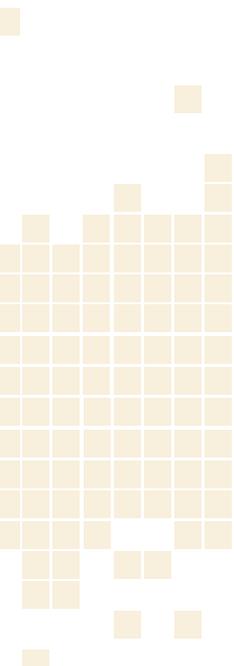
Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# RISK BASED PROCESS SAFETY MANAGEMENT

## DESCRIPTION:

This course introduces the concepts of process safety management (PSM) in the oil & gas industry, the elements and benefits of process safety management systems, and tools for implementing and managing a system. Process safety is vital to the oil and gas industry. A comprehensive PSM system involves almost every function of a company: management, research, development, and engineering; facility and process construction; operations; maintenance; human resources, information technology and the contractors used in the industry. In this course the participant will learn to use tools and techniques for managing process safety.

## CONTENT:

- Process safety culture
- Compliance with standards
- Process safety competency
- Understand hazards and risk
- Operating procedures and safe work practices
- Asset integrity and reliability
- Management of change
- Conduct of operations
- Incident investigation (associated with plant failures)
- Measurement and metrics
- Management review and continuous improvement

## LEARN HOW TO:

- Identify processes applicable to Process Safety Management (PSM) and describe relevant terms used.
- Identify which standards are to be applied for managing process hazards.
- Apply programs and tools for managing a PSM system.
- Choose appropriate decision making methods and tools to identify process hazards.
- Describe and use techniques available for control of hazards associated with process designs.
- Describe the criteria and methods of selecting equipment and safe guarding controls.
- State how to research and apply the performance parameters for the safety systems in operations.
- Explain the role of all disciplines and their contribution to the management of potential HSE hazards.
- Describe how to apply the appropriate key requirements of national and international engineering codes and best practices to Process/ Technical Safety in own operations.
- State how to effectively utilize Process/ Technical Safety problem-solving.

## TARGET GROUP:

Engineers, HSE Professionals, Project Managers and Supervisors requiring a basic foundation in developing and managing process safety. The more detailed aspects of engineering process design are covered in a separate course.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from June 22 - 26, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# INTRODUCTION TO IMPLEMENTING SAFETY & HEALTH MANAGEMENT SYSTEM

## DESCRIPTION:

The objective of the course is to provide participants with an understanding of the elements of an effective Occupational Safety and Health Management System for industrial establishments. Participants will be informed of the requirements of the safety legislations and how it impacts on their organization.

## CONTENT:

The course content will be as follows:

1. Review of OSH Act # 1 of 2004 and Act # 1 of 2006.
2. Impacts of the proposed OSH Act on industrial establishments.
3. Overview of Safety and Health Management Systems – OHSAS 18001
4. Elements of an effective Safety and Health Management System
  - a. Management Leadership and Commitment
  - b. Organization, Communication and System Documentation
  - c. Assessments, Audits and Continual Improvement
  - d. Hazard Recognition, Evaluation and Control
  - e. Workplace Design and Engineering
  - f. Operational Safety Programs
  - g. Employee Involvement
  - h. Motivation, Behaviour and Attitudes
  - i. Training and Orientation

## LEARN HOW TO:

Upon completion participants will be able to:

- Identify their OSH roles and responsibilities
- Understand the requirements for compliance to the OSH Acts
- Develop Policies, Procedures and Programs of Works for employee Safety and Health
- Participate in the Accident Prevention Plan
- Implement programs for compliance
- Monitor OSH performance

## TARGET GROUP:

Employees, Contractors, Managers, Supervisors and Team Leaders.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from 16th – 17th February 2009, between the hours of 8:00 a.m. – 4:00 p.m.

**VENUE:**

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

To be announced

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4030 for further information or to register.

# STRATEGIC PLANNING AND IMPLEMENTATION

## DESCRIPTION:

This course will help teams, departments, and businesses of all sizes to become high-performance organizations, by implementing strategies in an efficient, holistic and integrated manner.

## CONTENT:

- Introduction to strategic planning
- Key steps towards a strategic plan
- Using hindsight when strategic planning
- Effect not equal to cause when planning strategy
- SWOTs keys to business strategies
- Simple and short strategic plans
- Strategic planning worksheet
- Plan to implement

## LEARN HOW TO:

- Understand the strategic planning process and how it fits with other plans.
- Define the organization's vision and mission statement.
- Define the components of the mission statement.
- Conduct a critical analysis of the organisation and understand the critical success factors impacting on the business.
- Analyze the external environment.
- Analyze internal resources.
- Explain how to convert critical success factors into key result areas.
- Set strategic direction.
- Write a strategic business plan.
- Implement the strategic plan using appropriate mechanisms.

## TARGET GROUP:

Middle, senior and general managers who are responsible for change management and the implementation of strategic policy. Both at a team and organizational level, this course is essential for managers who develop strategic plans and then oversee their execution.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- May 18 – 22, 2009
- August 24 – 28, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# SUPERVISORY MANAGEMENT

## DESCRIPTION:

This course is about supervisory training for performance management in the workplace. It focuses on team building and leadership roles. The course will provide new or experienced supervisors with the tools and techniques for building personal confidence in their leadership role in the workplace that will result in the enhanced productivity of their teams. Some of the course content will involve: time management, trust and respect, as well as, motivating skills.

## CONTENT:

- The Role Of The Supervisor
- The New Role of Supervisor - Making the transition
- Planning and Organizing
- Delegation
- Motivating
- Leadership
- Performance Management and Performance Improvement
- Team Building
- Managing Change
- Effective Communication
- Conflict Resolution
- Coaching and Counselling
- Time Management
- Managing employee safety

## TARGET GROUP:

Foremen, Heads of Departments, Middle Managers, Office Managers, Plant Managers, Senior Technicians and Supervisors, first line leadership personnel, and persons with the responsibility for the delivery of targets within quality, time, and cost parameters.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- March 2 – 6, 2009
- June 22 – 26, 2009
- September 14 – 18, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

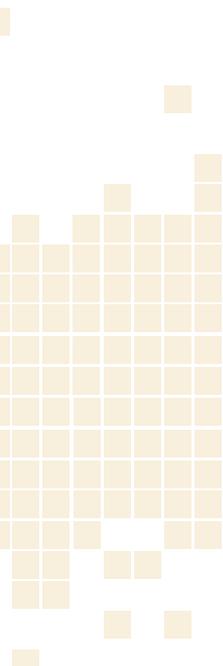
Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

### **COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# THE NEW SUPERVISOR

## DESCRIPTION:

Undeniably, high performing supervisors can impact positively on overall staff performance. This specialised training focuses on the unique role of the new supervisor and introduces the fundamental skills-set required in these roles. Participants will not only break down common problems and share solutions, but build on their innate talents to lead and apply their practical skills. They will develop new ways to influence, convince and motivate people through coaching. Learn how to create and inspire powerful teams, so that they can become more than the sum of the individuals on those teams.

## CONTENT:

- Transition from team member to supervisor or frontline
- Defining and clarifying the role and expectations of supervision and management
- Key involvement strategies
- Basic supervisory principles such as planning and organizing
- Applying leadership principles, such as:
  - Maintaining and enhancing employee motivation
  - Effective delegation techniques
  - Basic team building principles
  - Managing performance of team members
  - Important legal obligations

## LEARN HOW TO:

- Identify expectations of the supervisor's role.
- Identify and apply key skills of communication, motivation and delegation.
- Apply appropriate leadership skills to situations.
- Motivate employees to increase productivity.
- Manage the performance of the team and individuals in the team.

## TARGET GROUP:

Leading hands and frontline managers, new supervisors and team leaders.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- March 23 – 27, 2009
- July 27 – 31, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# TRAIN THE TRAINER

## DESCRIPTION:

This practical 5 day course has been developed for professionals who are required to prepare and present training.

## CONTENT:

### Module 1 - The Training Function

- Role of the trainer / instructor
- Importance of training
- Responsibilities and desirable qualities of an instructor
- Functions to be performed by the instructor
- Personal considerations for an instructor
- Forms of training

### Module 2 - Psychological Principles of Learning

- The Learning Process
- What is learning?
- Basic principles of learning
- Factors influencing learning
- How adults learn
- Individual differences

### Module 3 - Communication: The Medium of Training

- The Communication Process
- Effective / Efficient communication
- Communication channels
- Barriers to communication

### Module 4 - The Instructional Process

- Elements of the instructional process
- Requirements for successful instruction
- Components of successful instruction
- Using specific objectives
- Instructional methods: Advantages, disadvantages techniques:
  - Lecture
  - Demonstration
  - Discussion
- Instructional techniques / strategies:
  - Questions and questioning
  - Motivation

## Module 5 - Resources for Training

- Materials
- Personnel
- Finance
- Time

## Module 6 - Assessing the Effectiveness of Instruction

- Concept of: assessment, evaluation
- Purposes of assessment
- Types of assessment
- Testing and evaluation

### LEARN HOW TO:

1. Appreciate the role of the trainer / instructor, the importance of training and the different forms of training.
2. Understand basic psychological principles which relate to instruction, learning and to adults as learners.
3. Understand the advantages and limitations of selected methods of instruction to be used in a training / learning environment.
4. Apply appropriate methods, techniques and strategies when instructing trainees.
5. Understand the major elements involved in the instructional process.
6. Apply basic psychological principles of training and learning in an instructional environment.
7. Recognise the importance of instructional planning and organization for effective training and learning.

### TARGET GROUP:

- Trainers/Instructors
- Training Managers/ Coordinators
- Human Resource Managers/Assistants with responsibility for the training function in their organizations
- Persons interested in becoming trainers/instructors or in managing/coordinating the training function

### INSTRUCTOR:

UTT Approved Facilitator

### DURATION:

The course will be conducted from:

- March 9 – 20, 2009
- July 13 – 17, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner of Pasea Main Road and Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Participation based on a minimum of 80% attendance of course sessions.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# PETROLEUM TECHNOLOGY STUDIES

# PETROLEUM TECHNOLOGY

- **Basic Drilling, Completion and Workover Operations**
- **Basic Petroleum Geology**
- **Basic Petroleum Technology**
- **Basic Reservoir Engineering**
- **Drilling Practices**
- **Gas Conditioning and Processing (LNG Emphasis) G-31**
- **Gas Reservoir Management**
- **IADC Well Control Surface Stack**
- **International Petroleum Contracts**
- **Petroleum Risks & Decision Analysis**
- **Well Log Interpretation**
- **Well Test Design and Analysis**

# BASIC DRILLING, COMPLETION AND WORKOVER OPERATIONS

## DESCRIPTION:

This course is specifically designed to give a technical overview of the science and art of drilling operations, completion practices and post-completion wellbore enhancement or remedial workover techniques (well intervention). Its purpose is to develop an understanding of the WHAT, WHY, and HOW of each of these areas of engineering practice. The participants learn to visualize what is happening “downhole”, discover what can be accomplished and gain an appreciation for wellbore risks and the possibility of damage to the formation. How drilling and completion practices can alter reservoir interpretation and performance will be discussed. The participant will become conversant with specific technical terminology and aware of practical applications, which should enhance communication and interaction between disciplines.

## CONTENT:

*Overview of the drilling process:*

- Overall drilling practices
- Language of drilling
- Reservoir rock and fluid properties
- Rigs & rig equipment
- Drilling string components & design
- Bits
- Drilling fluids & hydraulics
- Rig operation
- MWD
- Well control
- Hole problems & stuck pipe
- Drilling risks
- Cores and coring
- Casing design & installation
- Primary cementing
- Directional, horizontal, multilateral & under-balanced drilling
- Wellhead & trees

*Overview of the completion process:*

- Zonal isolation
- Tubing, packers & completion equipment
- Safety & flow control devices
- Open hole completions
- Basic completion types
- Perforating
- Open & cased hole logging
- Formation damage & treatment
- Completion fluids and multiple completions

*Overview of workover techniques:*

- Stimulation application: surfactants, solvents, acidizing, fracturing & deep perforating
- Formation & sand control: greens, chemical consolidation, gravel packing, frac-pack, new & novel techniques
- Scale & corrosion
- Paraffin & asphaltenes
- Recompletions
- Reworks
- Sidetracking
- Deepening
- Coiled tubing

**YOU WILL LEARN:**

- How drilling, completing and reworking a well affects its ability to produce.
- What can be done within open-hole and cased wells, as a part of reservoir management.
- How drilling practices can damage or stimulate producing wells.

**TARGET GROUP:**

Cross-training of other technical disciplines such as reservoir and surface facility engineers, geoscientists, support and supervisory personnel and anyone else who interacts with drilling, completion or workover design engineers. This should not be considered as a fundamental course for training engineers seeking a career in drilling or workovers.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from September 28 – October 02, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# BASIC PETROLEUM GEOLOGY

## DESCRIPTION:

Basic Petroleum Geology applies geological principles to structural geology (for trapping oil and gas), depositional environments (to create petroleum reservoirs), and source and reservoir rock properties (for the origin and migration of petroleum). The fundamental geological requirements of a wide variety of disciplines in the petroleum industry are satisfied without requiring a technical background.

Primary objectives of the course are to broaden your geological vocabulary, explain selected geological principles and processes, and describe how certain petroleum reservoirs and source rocks are formed. If you have had a geology course at the university level and remember most of it, this course is not for you. If you have had a geology course and don't remember much of it, then consider this course for a refresher. If you are an engineer, geophysicist, petrophysicist, geotech lawyer or financial analyst dealing with geologists but don't understand the geological terms, then this course will be of great benefit.

## CONTENT:

- Minerals and rocks
- Plate tectonics
- Geological times
- Weathering and erosion
- Deposition
- Diagenesis
- Reservoirs
- Structural geology and petroleum
- Origin, migration, and trapping of petroleum

## YOU WILL LEARN:

- About plate tectonics and petroleum.
- About geological time and history.
- The fundamentals of rock formation and deformation.
- The essentials of various depositional environments and the reservoirs created by them.
- The distribution of porosity and permeability in reservoirs produced in different depositional environments.
- How rock characteristics are related to modern geological processes and applied to the ancient record.
- About petroleum reservoir and source rocks.
- Of petroleum origin, migration, and trapping.
- How to correlate electric logs and recognize depositional environments on logs.
- How to make contour maps and cross sections.
- Elements of geophysics and exploration.
- How geology bears directly on engineering practices.

**TARGET GROUP:**

Petroleum industry personnel in need of basic geological training, including engineering, geophysical, technical support, and administrative personnel.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from October 05-09, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# BASIC PETROLEUM TECHNOLOGY

## DESCRIPTION:

This course, in its five-day format, is designed for non-technical personnel and managers, and presents a practical understanding of petroleum industry technology in an interesting, effective, and efficient manner. Included are the basics of the industry from terminology through basic technology and from geology through processing of the petroleum product. The course emphasis is on “understanding” the technology.

## CONTENT:

- Reservoir fluid properties
- Petroleum geology
- The petroleum reservoir
- Exploration technology
- Drilling technology
- Well completion and workover
- Production operations
- Recovery
- Surface processing
- Offshore operations

## YOU WILL LEARN:

- Basic geology as related to oil and gas reservoirs
- Reservoir fluid and rock properties
- Basics of seismic technology
- Reservoir definition and development; production and recovery
- Fundamentals of drilling, well completions and production operations
- Basic concepts of primary and enhanced recovery operations
- Surface operations
- Terminology of exploration and production (language of the oil field)

## TARGET GROUP:

Accounting, administrative, data processing, drafting, economics, field support, finance, human resources, land, legal, management and secretarial personnel, as well as investors and royalty owners.

## INSTRUCTOR:

PetroSkills Facilitator

## DURATION:

The course will be conducted from:

- May 18-22, 2009
- August 24-28, 2009

Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# BASIC RESERVOIR ENGINEERING

## DESCRIPTION:

The intent of Basic Reservoir Engineering is development of a more complete “understanding” of the characteristics of oil and gas reservoirs, from fluid and rock characteristics through reservoir definition, delineation, classification, development plan, and production. Data collection, integration and application directed toward maximizing recovery are stressed. Basic reservoir engineering equations are introduced with emphasis directed to parameter significance and an understanding of the results. 3-D and 4-D seismic concepts are introduced. For nearly 30 years this has been one of OGCI’s most popular and successful courses.

## CONTENT:

- Reservoir fluid properties
- Coring practices and rock properties
- Fundamentals of fluid flow
- Reservoir fluid distribution
- Reservoir classification
- Reservoir drive mechanisms
- Oil and gas well performance
- Pressure buildup analysis
- Oil displacement concepts
- Estimation of oil-in-place and gas-in-place
- Recovery

## YOU WILL LEARN:

- The fundamentals of fluid flow in porous media.
- How fluid type and drive mechanisms characterize reservoirs.
- The basis for reservoir fluid distribution.
- About oil and gas well performance and pressure buildup analysis.
- About oil displacement and optimizing reservoir performance.
- The basics of enhanced oil recovery.
- How oil and gas in place can be estimated and recovery predicted.

## TARGET GROUP:

Chemists, data processing personnel, geologists, geophysicists, engineers, engineering trainees, physicists, sales representatives, service company personnel, technical assistants, technical managers, technical supervisors, technicians, and support staff working with reservoir definition, development and production.

## INSTRUCTOR:

PetroSkills Facilitator

## DURATION:

The course will be conducted from July 13-17, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# DRILLING PRACTICES

## DESCRIPTION:

The two-week course is designed for engineers and field personnel involved in planning and implementation of drilling programmes. The course covers all aspects of drilling technology, emphasizing both theory and practical application. Drilling is a complex operation requiring the marriage of different technologies and disciplines. Today's drilling personnel must have a working knowledge of all these disciplines in order to effectively drill a well. The course provides all the fundamentals necessary to drill a well whether it is a shallow well or a complex, high pressure well. Computer programs are used to design many aspects of the modern well and the course will provide the participants with the theory behind most programmes along with practical implementation.

## CONTENT:

- Planning including requirements for the completion and testing, AFE preparation
- HSE at the rig site
- Cost control, evaluating alternative drilling methods and maximizing penetration rate
- Hole cleaning, sloughing shale, lost circulation, stuck pipe and fishing operations
- Drilling fluids
- Lifting capacity of drilling fluids, pressure losses in the circulating system and ECD
- Maximizing hydraulics in the planning phase and at the rig
- Bit selection and application
- Casing and drill string design, selection of casing seats, BOP equipment
- Cement, cement additives and displacement mechanics
- Deviation control, directional drilling and horizontal drilling
- Pressure control – routine and special problems
- Project post analysis

## LEARN HOW TO:

- Review drilling data and plan the well from spud to running production casing.
- Incorporate the completion plans into the drilling plan.
- Drill a well cost effectively and maximize penetration rate.
- Evaluate stuck pipe problem and avoid potential problems.
- Evaluate and maintain drilling fluids.
- Optimize hole cleaning.
- Design casing, drill string and BOP/wellheads.
- Evaluate and implement cementing programmes.
- Design and implement bit and hydraulics programmes.
- Incorporate directional drilling and deviation control.
- Recognize and evaluate well control problems.

## TARGET GROUP:

Drilling supervisors, drilling engineers, managers, toolpushers and technical support personnel.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from November 9-20, 2009. Sessions will be on a full time basis (Monday – Friday, 8:00am – 4:00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$7,645.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# GAS CONDITIONING AND PROCESSING (LNG EMPHASIS) G-31

## DESCRIPTION:

This is the LNG version of our popular G-4 course with expanded coverage on refrigeration. Course includes in-depth information of basic LNG gas conditioning and processing. Instructors will explain the acid gas removal processes (various amines, hot carbonate, Sulfinol®, etc.) employed in LNG processes. Relevant details of both the mixed refrigerant and cascade processes in LNG liquefaction are described. Versions of this course have been taught in many of the world's base-load and peak-shaving LNG plants.

## CONTENT:

- Basic gas technology systems
- Water-hydrocarbon system behaviour – hydrates etc
- Calculation of systems energy
- Separators
- Gas treatment, CO<sub>2</sub>, and H<sub>2</sub>S removal
- Dehydration of natural gas
- Heat transfer and exchangers
- Pumps and compressors
- Refrigeration systems
- LNG liquefaction technologies
- Fractionation and absorption
- Course summary and overview

## YOU WILL LEARN:

- The basics of LNG gas conditioning and processing in depth.
- To select and evaluate processes used to dehydrate natural gas, remove heavy components and other contaminants, and to extract NGLs for LNG plants.
- Physical/ thermodynamic property correlations and principles, including heating values etc. to understand gas processing facilities and LNG plants.
- Fundamentals of propane and propane pre-cooled, mixed refrigerant systems used in LNG plants.
- To recognize key points in other LNG liquefaction technologies.
- How to perform and review equipment sizing correlations for major process equipment.
- To recognize and discuss solutions to operating problems and control issues in LNG and gas processing facilities.

## TARGET GROUP:

Personnel directly involved with natural gas processing and LNG production or anyone interested in a solid understanding of the principles of an LNG plant.

## INSTRUCTOR:

John M. Campbell Facilitator

**DURATION:**

The course will be conducted from January 19-30, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

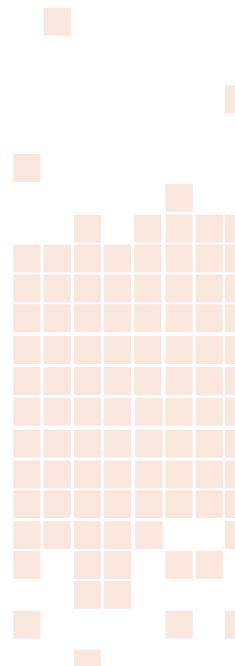
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**CERTIFICATION:**

Participants will be awarded a John M. Campbell (PetroSkills Facilities) Certificate of Completion, upon successful completion of the course.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.



# GAS RESERVOIR MANAGEMENT

## DESCRIPTION:

Natural gas production has become a major part of every petroleum company's asset base and continues to grow in importance throughout the world. This course will help students understand the engineering drivers on gas reservoir management and how a gas reservoir's value can be maximized through sound engineering practices. A full spectrum of gas reservoir engineering techniques is addressed and their application to a large variety of gas resource management options is discussed.

## CONTENT:

- Gas reservoir fluid properties: gas condensate sampling and understanding laboratory reports.
- Gas reservoir fluid flow and well testing: deliverability testing and non-darcy flow, testing for hydraulically fractured wells, horizontal wells, and gas condensate reservoirs.
- Determination of original gas-in-place: material balance techniques for various drive mechanisms and reservoir types, alternate plotting techniques, production decline type curves.
- Gas flow in wellbores and pipelines: the gas production system, pressure drop in wellbores and flowlines, restrictions to gas production.
- Prediction of future performance and ultimate recovery: decline curves, coupled material balance and deliverability techniques, reservoir simulation, gas well spacing, infill drilling and special topics.
- Reservoir management of water-drive gas reservoirs, predicting gas condensate reservoir performance, coalbed methane reservoirs.

## LEARN HOW TO:

- Evaluate gas reservoir data and prepare this data for engineering calculations.
- Apply frequently used gas reservoir engineering techniques.
- Perform production decline type curve analysis and use other advanced reservoir calculations such as simulation.
- Solve reservoir engineering calculations through the use of many practical exercises.

## TARGET GROUP:

Engineers actively involved with the operation and management of gas reservoirs; geoscientists working with gas reservoirs in field development and expansion planning would also benefit from attending this course.

## INSTRUCTOR:

PetroSkills Facilitator

## DURATION:

The course will be conducted from February 02-06, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# IADC WELL CONTROL SURFACE STACK

## DESCRIPTION:

The course emphasizes the practical application of well test theory to the solution of real well testing problems from design through interpretation for oil, gas and water injection wells. Participants will be introduced to a systematic approach to well test analysis and will apply it using modern well test analysis software. Numerous data sets with non-ideal behaviour will be reviewed and analyzed to allow participants to gain experience with real world problems. Participants will be able to apply their newly acquired skills in their job assignments immediately upon course completion.

## OBJECTIVES:

This surface stack well control course focuses on the detection of potential fluid influx into an open-hole wellbore, and measures that can be taken to stop the influx, as well as, well control methods that can be applied to remove the influx and to safely restore the well to normal operations.

Participants will train on the well control simulator, thereby having the opportunity to demonstrate his/her understanding in detecting a kick, shutting in the well, and removing influx using the appropriate well control method(s).

## LEARN HOW TO:

- Design well tests and specify equipment requirements.
- Set up and analyze well tests for oil and gas wells using traditional and modern well testing analysis techniques.
- Perform QC analysis of pressure data; identify and discard “bad” data.
- Identify various wellbore and reservoir characteristics and choose the appropriate model for analysis.
- Apply analysis principles using commercial well test analysis software.

## TARGET GROUP:

Assistant Driller, Driller, Drilling Foreman, Derrickman, Floorhand, Toolpusher, Tourpusher and Superintendent.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The programme will be conducted from:

- January 26 – 30, 2009
- July 13 – 17, 2009
- October 12 - 16, 2009.

Sessions will be on a full time basis (Monday’s – Friday’s, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded an IADC WellCAP Certificate upon successful completion of the programme.

**COST:**

USD\$1,300.00, inclusive of lunch, refreshment and course material.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# INTERNATIONAL PETROLEUM CONTRACTS

## DESCRIPTION:

You will learn the philosophy, evolution, and fundamentals of international petroleum contracts and have an opportunity to see how each of these actually works. You will take part in life-like negotiating sessions mastering many negotiating techniques, where a mistake is a learning experience not a disaster. As you prepare for each session, you use a computerized economic model to assess the value of contract terms. This enables improved planning of negotiating strategies to achieve the desired goals by parties at both sides of the negotiating table. The classes include participants from both national oil companies and foreign contractors, which adds further realism to the exercises. Host governments and outside contractors are on opposite sides of the negotiating table, but they are not adversaries. A win-win business arrangement should be the objective of both parties, as a signed contract makes them partners. A viable contract cannot be negotiated without an effective understanding of the underlying economics. Your negotiating strategies will determine contractual terms ultimately defining the economic benefits to be realized. Various contract types have specific “pros” and “cons”. Concessions and production sharing agreements are two of the contract types to be evaluated. Each participant receives a disk copy of the spreadsheets used in the negotiation workshop and a manual, which explains the fundamental principles of E&P contracts, presents examples of economic analysis, and includes a model contract.

## CONTENT:

- Types of international petroleum contracts
- Important principles and terms in all contracts
- Host governments and contractors contract objectives
- Specific features of different types of contracts; dividing the production
- Outline of a typical contract for E&P
- Contract operating issues
- Funding petroleum development programs
- How the contractor is paid
- Contractor's risk
- Contract economics
- Non-financial issues
- Analysis of contract provisions
- Model contract
- Natural gas production under international contracts
- Negotiations workshop
- Ethics in international petroleum operations

## TARGET GROUP:

Exploration and production managers; national oil company managers; government representatives and others in the oil industry who expect to be involved in negotiating, administering, reviewing, managing, directing, and overseeing international exploration and production contracts between host governments and outside contractors.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from April 20-24, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# PETROLEUM RISKS & DECISION ANALYSIS

## DESCRIPTION:

Good technical and business decisions are based on competent analysis of project costs, benefits and risks. Attendees will learn a practical, systematic process for analyzing decisions under conditions of risk and uncertainty, and how to design and solve decision models. In these, probability distributions express professional judgements about risks and uncertainties and are carried through the calculations. Decision tree and influence diagrams provide clear communications and the basis for valuing each alternative. The complementary Monte Carlo simulation technique is also presented and experienced in detail in a hand-calculation exercise. The emphasis is on practical techniques for immediate application. This is a fast-paced course and recommended for those with strong English listening skills.

## CONTENT:

- Decision Tree Analysis: decision models; low probability, high-consequence events; valuing additional information and control; project threats and opportunities.
- Monte Carlo Simulation: Latin hypercube sampling; portfolio problems; optimization; advantages and limitations.
- Decision Criteria and Policy: value measures; multiple objectives; HSE; capital constraint; risk aversion.
- Modeling the Investment: influence diagrams; sensitivity analysis, modeling correlations.
- Basic Probability and Statistics: four fundamental rules, including Bayes' theorem; choosing distribution types; common misconceptions about probability; avoiding biases in estimation.
- Expected Value Concept: foundation in decision policy, pitfalls to avoid.
- Implementing Decision Analysis: guidelines for good analysis practice; team analyses; computer tools (discussion and demonstrations); mitigating risks.
- Evaluating a multi-pay prospect (team exercise).

## LEARN HOW TO:

- Express and understand judgments about risks and uncertainties as probability distributions.
- Work with probabilities and probability distributions, including revising prior assessments based upon new, imperfect information.
- Set up decision models to calculate expected value in decision trees, payoff tables, and Monte Carlo simulation.
- Use expected value as the cornerstone of objective forecasting and decision policy.

## TARGET GROUP:

Engineers, geologists, geophysicists, managers and planning analysts.

## INSTRUCTOR:

PetroSkills Facilitator

**DURATION:**

The course will be conducted from March 09-13, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completions, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# WELL LOG INTERPRETATION

## DESCRIPTION:

Familiarity with the purposes and optimum applications of well logs is essential for people forging their careers in exploration and production. General principles of physics are developed to explain the functioning of modern logging tools. A feature of this course is the large number of actual log examples used to illustrate and describe reservoir properties. Participants gain realistic experience by working in teams on a comprehensive log interpretation exercise.

## CONTENT:

- Logging objectives
- Invasion profile
- Challenge of borehole geophysics
- Passive electrical properties of earth materials
- Resistivity measuring tools, normal, induction, laterolog
- Reservoir/non-reservoir discrimination
- Matrix-sensitivity logs, GR, SGR, Pe
- Depth measurements and control
- Borehole calipers
- Porosity-mineralogy logs, density, neutron, sonic
- Porosity determination in clean formations
- Formation resistivity factor
- Conductivity of shales
- Porosity log crossplots and mineralogy identification
- Partially saturated rock properties and Archie Equation
- Linear movable oil plot
- Reconnaissance techniques,  $R_{wa}$ , FR/FP, logarithmic scaler
- Logarithmic MOP
- Porosity-resistivity crossplots
- Permeability relationships
- Nuclear magnetic resonance
- Use of pressure measurements
- Computerized log evaluation
- Sidewall coring
- Recommended logging programs

## LEARN HOW TO:

- Identify reservoirs
- Determine mineralogy, porosity and saturation in various lithologies
- Recognize the importance of electrical properties of earth materials
- Highlight oil mobility
- Interpret pressure profiles
- Develop optimum tools and logging programs
- Apply quickbook methods of formation evaluation

**TARGET GROUP:**

Petrophysicists, geologists, geophysicists, engineers, technicians, or anyone interested in a solid understanding of the principles of borehole geophysics.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from October 26-30, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# WELL TEST DESIGN AND ANALYSIS

## DESCRIPTION:

This course stresses practical application of well test theory to design and interpretation of pressure transient tests. An integrated approach to well test interpretation is emphasized throughout the course. Class exercises involving hand calculations and simple spreadsheet applications will reinforce the concepts covered in class. Concepts will be illustrated by both synthetic data sets and real field examples. Participants will be able to apply the knowledge and skills in their job assignments upon course completion.

## CONTENT:

- Introduction to Well Testing
- Radial Flow
- Log-log Type Curve Analysis
- Pressure Transient Testing for Gas Wells
- Flow Regimes and the Log-log Diagnostic Plot
- Bounded Reservoir Behaviour
- Wellbore and Near-wellbore Phenomena
- Well Test Interpretation
- Well Test Design
- Estimation of Average Drainage Area Pressure
- Hydraulically Fractured Wells
- Horizontal Wells
- Naturally Fractured Reservoirs

## LEARN HOW TO:

- Analyze drawdown and buildup tests in oil and gas wells.
- Identify flow regimes using log-log diagnostic plot.
- Describe characteristic pressure behaviour for common bounded reservoir geometries.
- Identify well test data affected by various wellbore and near-wellbore phenomena.
- Design a well test to meet desired objectives.
- Estimate average drainage area pressure.
- Analyze well tests in hydraulically fractured wells, horizontal wells and naturally fractured reservoirs.

## TARGET GROUP:

Engineers and geoscientists who want to understand well testing principles and interpretation techniques to design, analyze, report, evaluate results or intelligently participate in the well testing process. Previous experience in production and/or reservoir engineering is recommended. Previous experience in well testing is helpful but is not required.

## INSTRUCTOR:

PetroSkills Facilitator

**DURATION:**

The course will be conducted from February 09-13, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.



**PRODUCTION, MECHANICAL AND  
ELECTRICAL DESIGN STUDIES**

# PRODUCTION, MECHANICAL AND ELECTRICAL DESIGN STUDIES

- **AutoCAD – Level 2**
- **AutoCAD - Level 3**
- **Avo, Inversion and Attributes - Principles & Applications**
- **Downhole Remediation Practices for Mature Oil and Gas Wells**
- **Fundamentals of Electricity and Electrical Practices for Offshore Operators**
- **Fundamentals of the Safe Operation of High Voltage Electrical Systems**
- **Integration of Rocks, Log and Test Data**
- **Introductory AutoCAD Drafting for the Utilities**
- **Production Operations 1**
- **Root Cause Analysis REL-25**
- **Water Flooding A to Z**

# AUTOCAD – LEVEL 2

## DESCRIPTION:

This course is intended for persons who have completed the Level 1 programme. It includes the creation of complex drawing elements like Multilines, Splines and Polylines. It also explores the techniques of customizing the AutoCAD environment, plotting techniques and the use of scanned files in AutoCAD. In addition it covers the creation of isometric drawings and working in Paper Space viewports. On completion participants are equipped to produce industry standard 2D drawings in most of the Engineering disciplines.

## CONTENT:

- Creating and Using Plot Styles
- Working with Sheet Sets
- Creating Template Startup files
- Working with Paper Space Layouts and Viewports
- Creating custom Toolbars
- Grouping objects with the Group command
- Creating and Inserting Blocks in Drawings
- Inserting Blocks using the Design Center and Tool Palettes
- Creating custom Tool Palettes
- Attaching and Extracting Attributes from AutoCAD drawings
- Working with External Reference (XRef) Files
- Inserting and Editing Scanned Raster Image files
- Using the Multiline command and creating Multiline Styles
- Understanding Quick Dimensioning
- Using AutoCAD's Inquiry commands
- Creating and using Text and Dimension Styles
- Inserting Fields in drawings
- Understand the Linetype, Lineweight and Color object properties
- Customizing AutoCAD's Pull Down menus
- Creating and Editing Spline curves
- Understanding the Options dialog box settings
- Creating Isometric drawings

## YOU WILL LEARN:

- Different techniques of customizing the AutoCAD environment.
- To create and edit complex AutoCAD objects.

## TARGET GROUP:

Engineers, Planners, Students, Technicians, Utility and Drafting Personnel.

**INSTRUCTOR:**

UTT Approved Facilitator

**DURATION:**

The course will be conducted from:

- March 23 – 27, 2009
- July 27 – 31, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus, Churchill Roosevelt Highway, Pasea Main Road, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# AUTOCAD – LEVEL 3

## DESCRIPTION:

This course is intended for persons who are very comfortable with AutoCAD. It includes an exploration of the anatomy of the AutoCAD source menu file and the development of custom pull down and image menus. It also explains the concepts of Object Linking and Embedding in AutoCAD. It introduces the use of the AutoLISP and Diesel programming languages in AutoCAD drawings. This course is designed to provide participants with a thorough understanding of the concepts which support modern CAD technology.

## CONTENT:

- Working with Plot Styles
- Creating Pull Down Menus, Tool Buttons and Image Menu Files
- Understanding the structure of the ACAD.MNU file
- Hyper Linking AutoCAD objects
- Inserting and Extracting Attribute data from Blocks
- Configuring AutoCAD via the Options Dialog Box
- Working with OLE objects in AutoCAD
- Introduction to AutoLISP and Visual LISP Programming
- Creating and utilizing Script Files in AutoCAD
- Introduction to The Deisel Macro Language
- Sharing AutoCAD drawings on the Internet
- Editing Blocks and Xref files in drawings
- Creating Short Cut menus
- Introduction to 3D drawings
- Setting Up Printers and Plotters
- Creating and using Slides and Slide Library files
- Customizing the ACAD.PGP file to create Command Aliases
- Linking AutoCAD graphics to External Databases

## YOU WILL LEARN:

- To link AutoCAD to external databases and other applications.
- To customize AutoCAD to suit your individual needs.

## TARGET GROUP:

Engineers, Planners, Technicians, Utility and CAD Personnel.

## INSTRUCTOR:

UTT Approved Facilitator

## DURATION:

The course will be conducted from:

- April 20 – 24, 2009
- September 7 – 11, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus, Churchill Roosevelt Highway, Pasea Main Road, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance and successful completion of assessment.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# AVO, INVERSION & ATTRIBUTES PRINCIPLES & APPLICATIONS

## DESCRIPTION:

The subject of direct hydrocarbon indicators and AVO has rapidly expanded to include AVO inversion, offset AVO inversion and 4D AVO inversion. A significant part of the course deals with rock physics as it relates to the other topics in the course. Further insight into the seismic data is supplied by looking at seismic attributes. The technology has provided the interpreter with a very new and exciting package of tools that allow us to look at the seismic image as being truly representative of both rock properties and the pore filling material. This course is intended to provide the users and applicationists with a clear and useable understanding of the current state of these technologies. The focus of the course is on both understanding and application.

## CONTENT:

- Seismic fundamentals as they relate to defining the appearance of hydrocarbons in the data.
- An inventory of direct hydrocarbon indicators, including AVO.
- Risk rating prospects that display AVO anomalies.
- Understanding rock properties and the effect of pore filling material.
- AVO and how it relates to the typical production zones around the world with various ages and depths of burial.
- Various methods of displaying AVO effects in the seismic data.
- Acquisition and processing considerations to display hydrocarbons as a pore filling material.
- Various approaches to seismic modeling and fluid replacement.
- Rock properties and pore filling material from seismic inversion.
- Spectral decomposition and seismic attributes as other ways of extracting reservoir information from the seismic image.

## LEARN HOW TO:

- Clearly understand how hydrocarbons affect the seismic image.
- Use direct hydrocarbon indicators and AVO in the assessment of projects.
- Understand the limits of seismic resolution.
- Integrate these technologies into an interpretation project.
- Better understand the nature of the seismic image as it relates to hydrocarbons.
- Utilize the information available in the literature from experts in this rapidly developing part of seismic imaging.

## TARGET GROUP:

Geophysicists, geologists, explorationists, seismic interpreters, technical support personnel, seismic data processors, exploration, production, and acquisition managers, who need a clear understanding of the details of implementation and application of this technology. The "target audience" for this course is seismic interpreters.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from June 29 – July 03, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion upon successful completion of the course.

**COST:**

USD\$4,180.00, inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# DOWNHOLE REMEDIATION PRACTICES FOR MATURE OIL AND GAS WELLS

## DESCRIPTION:

Downhole Remediation for Mature Oil and Gas Wells is presented from a practical point of view. Discussions include decision processes for selection, design and application of methods that are supported by field experiences and research results. Principal focus is production-related near wellbore damage and remedial water control practices.

## CONTENT:

### *Production-Related Near Wellbore Damage:*

- Scale
- Paraffin
- Asphaltenes
- Corrosion
- Erosion
- Well Diagnostics
- Removal Techniques
- Prevention Techniques
- Wellbore Stabilization

### *Understanding Unwanted Water Production:*

- Extent of the Problem
- Causes and Effects of Water Production
- Monitoring and Evaluation Techniques
- Diagnostics
- Defining Required Attributes and Placement Controls
- Fitting Solutions to Problems

### *Remedial Water Control:*

- Challenges and Solutions
- Environmental Considerations
- In-Wellbore Control
- Near-Wellbore Techniques
- Matrix Applications
- Fractures and Voids
- Other

### *Water Control:*

- Bringing it all together
- Engineered Process
- Initial Screening
- Reservoir Characterization
- Simulation
- Case Studies

### LEARN HOW TO:

- Diagnose and develop removal and prevention techniques for wellbore damage due to scale, paraffin, asphaltenes, corrosion, and erosion.
- Understand sources, causes, and effects of water production.
- Design remediation applications (both mechanical and chemical) for reducing excess water production.
- Design sand-control applications and understand how to fix damaged screens and gravel packs.
- Understand how and when to apply remedial cementing practices and what tools and job considerations are critical.
- Apply these techniques to a specific well problem that you bring in to the classroom from your current field assignment.

### TARGET GROUP:

Asset managers, company executives and officials, drilling and completion engineers, field supervisors, field personnel with operating and service companies, independent producers, petroleum engineers and geologists, production managers and engineers, reservoir managers and engineers.

### INSTRUCTOR:

PetroSkills Facilitator

### DURATION:

The course will be conducted from April 27 - May 1, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

### VENUE:

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### CERTIFICATION:

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

### COST:

USD\$4,180.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# FUNDAMENTALS OF ELECTRICITY AND ELECTRICAL PRACTICES FOR OFFSHORE OPERATORS

## DESCRIPTION:

This course will provide participants with a fundamental understanding of the theory and practice of electricity, electrical principles and electrical installation related to operations in an offshore environment.

## CONTENT:

### PART “A” – FUNDAMENTALS OF ELECTRICITY

- Effects of an Electric Current
- The Electric Circuit
- Basic Laws – Ohm’s, Kirchhoff’s, Faraday’s, Lenz’s
- AC & DC Electrical Systems
- Generation of 1ph. and 3ph. Voltages
- 3ph. Star & Delta connections
- Electric Motors
- Transformers
- Rectifiers
- Low Voltage Fuses and Circuit-Breakers

### PART “B” – OFFSHORE PRACTICES – API RP 14F / 500B

- *American Petroleum Institute Definitions*
  - Class 1 Division 1 Location
  - Class 1 Division 2 Location
  - Unclassified Location
  - Explosion Proof Enclosures
  - NEMA Enclosure
  - Adequately Ventilated Area
  - Arcing Device
  - Non-incendive Equipment
  - Potting
- *Electrical Equipment For Classified Areas*
  - High Temperature Devices
  - Explosion Proof Equipment
  - Hermetically Sealed Devices
  - Intrinsically Safe Systems
  - Purged Enclosures
- *Electrical Power Generating Stations*
  - Prime Movers
  - Generators – Design and Operation
  - Protective Devices
  - Packing Considerations

- *Electrical Distribution Systems*
  - Voltage Level Selection
  - Conductor Selection
  - Wiring Methods
  - Conduit and Cable Seals
  - Circuit Protection
  - Electrical Enclosure Selection
  
- *Electrical Motors*
  - Voltage Selection
  - Motor heating
  - Motor Control
  - Motor Enclosures
  
- *Transformer*
  - Selection – 3ph. versus 1ph.
  - Special Offshore Considerations
  - Installation
  - Connections
  - Protection
  
- *Lighting*
  - Lighting Levels
  - Fixture Selection and Installation
  - Emergency Lighting
  
- *DC Power Supply System*
  - Continuous Power Application
  - Standby Application
  - Batteries
  - Battery Chargers
  - Environmental Considerations
  
- *Grounding And Bonding*
  - High Resistance Grounding
  - Low Resistance Grounding
  - Ungrounded Systems
  - Bonding
  
- *Special Systems*
  - Platform Safety Systems
  - Combustible Gas Detectors
  - Aids To Navigational Equipment
  - Communication Equipment
  
- *Special Consideration*
  - Construction practices
  - Electronic Instrumentation
  - Electrical Tools
  - Electrical Appliances

Extension Cords  
Electrical Equipment Building

- System Checkout
  - General
  - Generators
  - Motors
  - Instrumentation and Control Circuits
  - Lockout and Tagout procedures

### YOU WILL LEARN:

The objective of the training course is to impart to participants the theoretical knowledge and practical approaches related to electricity and electrical practices that will enable them to effectively function in an industrial environment. It will also facilitate the attainment of a Practising Certificate. In keeping with this objective, it is anticipated that participants will be required to:

- Apply theoretical and practical concepts related to Electricity and Electrical Installation Practices as are required on an offshore Installation and other Hazardous Environments.
- Apply theoretical and practical concepts conforming to the requirements of The American Petroleum Institute Recommended Practice 14F and 500B (API RP 14F) and (API RP 500B)

### TARGET GROUP:

Electricians, Electrical Technicians, Electrical and Instrument Technicians who work in an offshore environment or preparing for work in that environment.

### INSTRUCTOR:

UTT Approved Facilitator

### DURATION:

The course will be conducted from:

- January 12 – 23, 2009
- May 11 – 22, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

### VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

### CERTIFICATION:

Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

### COST:

TT\$5,500.00 inclusive of course material, lunch and refreshment.

### CONTACT INFORMATION:

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.

# FUNDAMENTALS OF THE SAFE OPERATION OF HIGH VOLTAGE ELECTRICAL SYSTEMS

## DESCRIPTION:

This course will provide participants with an understanding of the theory related to the design and operation of high voltage equipment operating up to 132kV, as well as the safety requirements and considerations associated with such equipment. Participants will also be exposed to the statutory requirements governing such equipment as well as the associated troubleshooting techniques. Modules include Statutory Regulations, Electrical Hazards and Precautions, Arrangement of High Voltage Systems, Operational and Safety features of Switchgear, High Voltage Safety Rules, Protection, Fault Analysis, Earthing and Maintenance requirements, Safety and Access requirements and Switching.

## YOU WILL LEARN:

*Upon completion of the course, it is expected that participants will be able to:*

- Identify codes, regulations and standards associated with the operation of high voltage equipment;
- Apply theoretical concepts related to high voltages up to 132kV;
- Identify potential hazards in the operation of high voltage equipment operating up to 132kV;
- Apply safe operating practices and procedures in interfacing with high voltage equipment operating up to 132kV.

## TARGET GROUP:

Electricians, Electrical Technicians and Electrical/Instrumentation Technicians working with and around equipment rated up to 132kV.

## INSTRUCTOR:

UTT approved Facilitator.

## DURATION:

The course will be conducted from:

- March 9 – 20, 2009
- June 29 – July 10, 2009
- October 5 – 16, 2009

Sessions will be on a full-time basis (Monday's – Friday's, 8:00 a.m. – 4:00 p.m.).

## VENUE:

The University of Trinidad and Tobago (UTT), Point Lisas Campus – Esperanza Road, Brechin Castle, Couva.

**CERTIFICATION:**

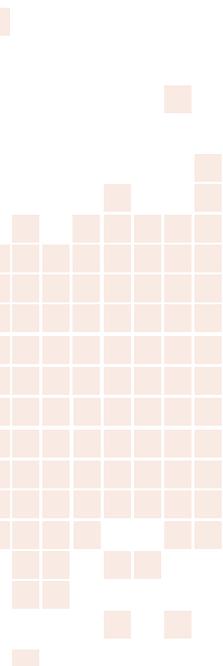
Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

**COST:**

TT\$5,500.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# INTEGRATION OF ROCKS, LOG AND TEST DATA

## DESCRIPTION:

This course provides the background necessary to solve complex reservoir evaluation and productivity problems faced in Exploration, Field Appraisal and Field Development. The key fundamentals of rock properties, logging tools and engineering data needed to solve these problems are reviewed. The concepts are illustrated with a series of real world problems that become increasingly complex as knowledge is gained in the class. Emphasis is placed on solving problems in a workshop format.

## CONTENT:

- Objectives of integration
- Key rock properties for formation evaluation
- Impact of depositional environment and rock properties
- Petrophysical rock type
- Texture and porosity and permeability
- Clay impact
- Summary of basic logging tools
- Subsurface rock sampling
- Use of subsurface pressure data and evaluation
- Relative permeability
- Capillary pressure application to pay determination
- Basic methodology for an integrated interpretation
- Rock typing
- Catalog approach
- Clastic and carbonate rock types
- Important reservoir rock parameters
- Cementation and saturation components – CEC- fluid sensitivity
- Review of production profiles
- Overview of pressure transient analysis
- Calculation of  $V_{Clay}$ /  $V_{shale}$  calibration of core and logs
- Calculation of porosity using porosity logs in complex lithologies
- What is effective porosity?
- Calculation of  $S_w$  using different methods
- Determining pay and pay classes

## LEARN HOW TO:

- Identify clastic and carbonate rock types based on productivity differences.
- Determine the key reservoir rock parameters needed for a more accurate reservoir evaluation.
- Use cuttings, sidewall cores and cores to determine reservoir parameters.
- Design an integrated interpretation.
- Calculate  $V_{clay}$ .
- Calculate porosity using porosity logs in complex lithologies.
- Determine what percentage of porosity contributes to production.
- Calculate  $S_w$  using different methods.
- Determine pay and pay classes.
- Tie rock and well log information to production performance.

**TARGET GROUP:**

Petrophysicists, petroleum reservoir engineers, geologists and geophysicists who have a basic understanding of petrophysics, geology and engineering and need a more advanced understanding of how to integrate the different data sets together to more completely understand reservoir performance.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from August 17-21, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$4,180.00, inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# INTRODUCTORY AUTOCAD DRAFTING FOR THE UTILITIES

## DESCRIPTION:

This course is intended for persons who have never used AutoCAD. It is a compact, direct, and practical introduction to the programme. First it introduces the basic AutoCAD commands and skills needed to get started and feel comfortable using the programme as the participants become more comfortable, it builds upon the basics, many of the new and powerful features of AutoCAD are discussed, in addition some of the advanced features are introduced. This course is organized to lead participants step by step from the basics to the production of industry standard dimensioned drawings.

## CONTENT:

- Understanding the AutoCAD graphic Interface.
- Creating, Opening and Saving drawings.
- Entering distances in drawings and understanding AutoCAD's Coordinate systems.
- Drawing AutoCAD objects including- Lines, Polygons, Circles, Arcs, Donuts, Points and Ellipse.
- Adjusting the size of an AutoCAD drawing.
- Moving accurately to existing drawing entities with Object Snap.
- Aligning drawing views with Polar and Object Snap Tracking.
- Methods of selecting AutoCAD drawing objects for editing.
- Editing AutoCAD objects including- Copy, Move, Erase, Fillet, Array, Mirror and Rotate commands.
- Correcting Errors in an AutoCAD drawing.
- Controlling the display of AutoCAD objects with the Zoom and Pan commands.
- Working with Multiple Tiled Viewports.
- Using Hatch patterns in Drawings.
- Obtaining geometric data from drawing objects with AutoCAD's Inquiry commands.
- Working with Drawing Layers
- Adding Text to AutoCAD drawings.
- Dimensioning of drawings including producing Linear, Angular and Radial dimension elements.
- Plotting of AutoCAD drawings

## LEARN HOW TO:

- Effectively use the AutoCAD drafting programme.
- Produce industry standard 2D drawings.

## TARGET GROUP:

Engineers, Planners, Technicians, Utility and Drafting Personnel.

## INSTRUCTOR:

UTT Approved Facilitator

**DURATION:**

The course will be conducted from:

- February 9 – 13, 2009
- June 22 – 26, 2009

Sessions will be on a full-time basis (Monday – Friday, 8:00 a.m. – 4:00 p.m.).

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

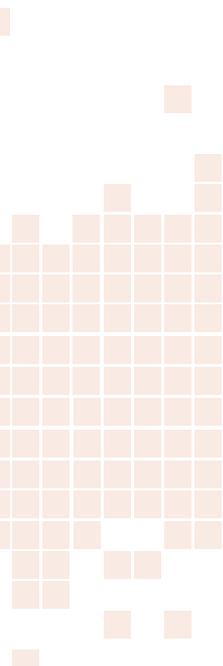
Participants will be awarded a Certificate of Achievement based on a minimum of 80% attendance of course sessions and successful completion of assessment.

**COST:**

TT\$3,800.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4033 for further information or to register.



# PRODUCTION OPERATIONS 1

## DESCRIPTION:

This course represents the core of PetroSkills' production engineering program and is the foundation for all future studies in this subject. The participant will become familiar with the procedures and techniques that increase production and cut operating costs. The course provides a fundamental and integrated understanding of wells, their design, operation and treatments. This is one of PetroSkills' most popular courses.

## CONTENT:

- Geological considerations
- Reservoir fundamentals
- Well testing
- Inflow
- Primary cementing
- Well Completions
- Outflow
- Workover fluids
- Perforating
- Completion equipment: tubing, packers, flow control devices
- Production logging
- Squeeze cementing
- Workovers
- Formation damage
- Surfactants
- Paraffin and asphaltene
- Rock mechanics
- Hydraulic fracturing
- Sand control
- Acidizing
- Corrosion control
- Scale deposition, removal, and prevention

## LEARN HOW TO:

- Plan and implement well completions, workovers, stimulation treatments, and routine production operations with an efficiency that increases profits.
- Evaluate the flow capacity of a well.
- Achieve reliable zonal isolation by efficient primary cementing.
- Devise an integrated plan for efficient well completion and treatments.
- Select and plan an appropriate perforating operation using underbalanced or extreme overbalance procedures.
- Ascertain why formations are damaged and how to prevent or correct such damage.
- Find out which stimulation is best and how to perform these jobs.
- Review your current practices to improve well productivity.
- Apply proven technologies and recent innovations in production operations.

## TARGET GROUP:

Drilling, facility, petroleum, production, reservoir and research engineers; geologists; field supervisors and managers; service company engineers and managers.

**INSTRUCTOR:**

PetroSkills Facilitator

**DURATION:**

The course will be conducted from September 07-18, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

USD\$7,645.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# ROOT CAUSE ANALYSIS REL-25

## DESCRIPTION:

This course is designed to teach the participant how to use three of the most popular and useful problem solving techniques available today – Five Whys, Logic Trees and Causal Factor Mapping. Class lecture will be reinforced with numerous practice opportunities, so the participant will feel comfortable going back to the job and attacking chronic plant problems and incidents right away.

## CONTENT:

- Introduction to Root Cause Analysis concepts
- Finding root causes of unreliability and incidents versus fire fighting with chronic problems
- Compare RCA to FMEA and other reliability improvement techniques
- The simple 5 Whys method of failure investigation
  
- Finding how root causes impact business goals
  - OEE (Overall Equipment Effectiveness)
  - Injuries
  - Environmental Incidents
  
- Review OEE concepts and how increasing OEE benefits business
  - Examples of RCA techniques improving OEE
  - Calculate OEE and revenue improvements from RCA techniques
  
- Causal Factor Mapping for incidents and failures
  - Using an RCA playbook and spreadsheet to determine when each method is appropriate
  - What circumstances trigger the use of RCA
  - How to use FMEA and Pareto to determine which problems to work on
  
- How to implement an RCA process
  - Selling and benefits of RCA to management
  - Possible approaches to RCA implementation and how to overcome resistance
  - Develop an action plan resulting from RCA

## LEARN HOW TO:

- Apply the 5 Whys technique for failure analysis.
- Get everyone at the plant engaged in doing 5 Whys.
- Find root causes that can benefit corporate goals regarding OEE, injuries, environmental incidents, etc.
- Use Logic Trees to uncover the physical, human and latent causes of failures.
- Decide when it is appropriate to use the Logic Tree.
- Apply the primary benefits of the Logic Tree approach.
- Gather and preserve evidence critical to root cause analysis, and understand why this is important.
- Select the best solutions once you have found the causes.
- Insure solutions are implemented and that they are effective.
- Use the Causal Factor Mapping technique for failure analysis.
- Decide when it is appropriate to use Causal Factor Mapping, and understand the primary benefits of this approach.
- Establish triggers to know when RCA is appropriate.
- Find chronic failures that are creating the most losses.

- Implement an RCA process at your plant and use an RCA Playbook to determine when each method is appropriate.
- Use RCA to investigate causes of failures and how this leads to an increase in OEE (Overall Equipment Effectiveness), as well as, reduce injuries and environmental incidents.

### **TARGET GROUP:**

Craft, first line supervisors, engineers, reliability and maintenance engineers, and managers who may participate in root cause analysis investigations of chronic equipment problems, or serious incidents related to the environment or safety. Upper level managers who want to understand how rigorously applying Root Cause Analysis techniques can bolster bottom line results should also attend.

### **INSTRUCTOR:**

John M. Campbell Facilitator

### **DURATION:**

The course will be conducted from September 14-18, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

### **VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

### **CERTIFICATION:**

Participants will be awarded a John M. Campbell (PetroSkills Facilities) Certificate of Completion, upon successful completion of the course.

### **COST:**

USD\$4,180.00, inclusive of course material, lunch and refreshment.

### **CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.

# WATERFLOODING A TO Z

## DESCRIPTION:

Waterflooding has long been proven as the simplest and the lowest cost approach to maintaining production and increasing oil recovery from an oil reservoir. However, these benefits may fall far short of the expectations unless the time-tested concepts and practices are clearly understood and judiciously implemented. These concepts and practices aim at process optimization - reducing production cost while minimizing waste and maximizing oil recovery and income. This course is light on theory but heavy on proven and successful practices. Published case histories of projects around the world are reviewed to provide an understanding of divergent points-of-view, what works where, what fails when, and why. The training covers all elements of a waterflood project from A to Z – from source water selection to produced water disposal and everything in between. Simulation studies are done in class to evaluate basic waterflooding physics as well as to optimize the development of a hypothetical field.

## CONTENT:

- Why is water injection needed?
- Reservoir characterization and aquifer influence.
- Water-displacing-oil flood mechanisms
- Design aspects
- Recovery expectations and production forecast
- Production engineering aspects and performance indices
- Associated problems/ risks and ways to minimize impact
- Reservoir monitoring
- Optimization of oil recovery
- Review of case histories
- Oil recovery enhancement beyond waterflood

## LEARN HOW TO:

- Distinguish rock characteristics and fluid properties that control displacement of oil and thereby influence oil recovery.
- Predict incremental oil recovery and develop production profile using required data and its sources.
- Specify components of a well-designed waterflood plan.
- Estimate injection water requirement, incremental oil production, and volumes of produced water.
- Monitor waterflood performance and identify ways to optimize oil recovery through new technology.
- Use reservoir simulation to address basic recovery mechanisms and optimization.

## TARGET GROUP:

Facilities, operations, production, reservoir, research and development engineers who are involved with some aspects of a new or existing waterflood project; geoscientists and professionals who want to get a better feel for the entire process of planning, development, management, and recovery optimization of a waterflood project.

## INSTRUCTOR:

PetroSkills Facilitator

**DURATION:**

The course will be conducted from July 20-24, 2009. Sessions will be on a full time basis (Monday – Friday, 8.00am – 4.00pm)

**VENUE:**

The University of Trinidad and Tobago (UTT), Pasea Campus – Corner Pasea Main Road & Churchill Roosevelt Highway, Tunapuna.

**CERTIFICATION:**

Participants will be awarded a PetroSkills Certificate of Completion, upon successful completion of the course.

**COST:**

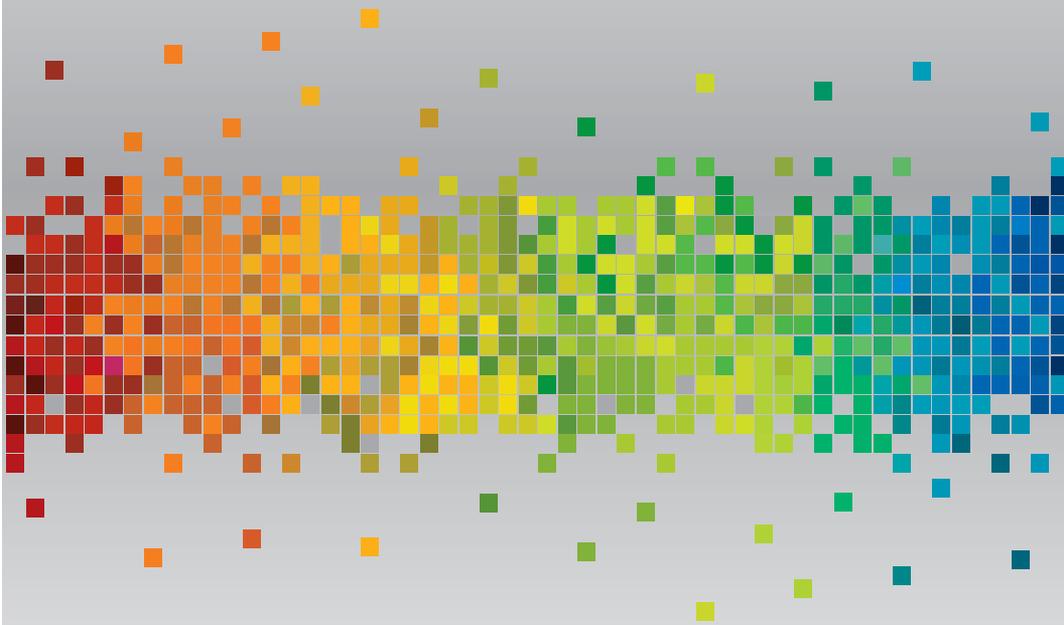
USD\$4,180.00 inclusive of course material, lunch and refreshment.

**CONTACT INFORMATION:**

Interested persons are asked to contact 663-3138/9718 Ext.4027 for further information or to register.







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