GE Oil & Gas University
Partnering today to shape the industry of tomorrow
GE OIL & GAS UNIVERSITY

GE Oil & Gas University has welcomed exceptional young professionals to its Florence campus since its launch in 2005. Admission is based on numerous factors including age, academic background, and years of industry experience. The program’s value is recognized by industry-leading organizations worldwide, who every year entrust us with the education and development of their top young talent. Candidates are nominated by their employers, and a rigorous selection process ensures consistently high levels of talent and aptitude in every class. In fact, out of approximately 100 people who apply for each semester, fewer than 30 are accepted into the program.

DYNAMIC CURRICULUM

Our goal is to provide fundamental leadership, managerial and technical skills to consolidate each student’s overall understanding of the oil and gas industry. Our team includes industry experts and instructors from GE and other leading organizations who cover all aspects of the oil and gas value chain, from exploration and production to final utilization.

Every year, we review and update the curriculum based on our learning from new equipment designs and installed fleet performance. We also analyze evaluations from graduates to ensure that our course content and instructors continue to deliver the quality of instruction and type of insight needed by the individual students and their employing organizations.

GE Oil & Gas University is a dynamic environment that continually evolves with the demanding, fast-paced industry it serves.

DEPTH AND REACH

Primarily focused on rotating equipment in its early years, the program has grown to provide a comprehensive perspective of the industry as a whole. It is a truly holistic learning experience providing a balanced mix of market insight, digital foundations, technical knowledge, and leadership skills. Every graduate emerges with a much stronger understanding of the technologies, processes and marketing activities across the entire oil and gas value chain. The experience is a valuable springboard for individual professional growth and future leadership, and our Alumni Network provides an exceptional opportunity to forge long-term relationships with other future leaders in every industry sector.

AN EXCEPTIONAL FACILITY

The Florence Learning Center (FLC) is one of the most advanced training and development facilities in our entire global organization. Every year, it hosts approximately 10,000 employees from GE and customer companies alike, from all links in the supply chain, and every region of the world. Consisting of 5,600 square meters of space, 27 fully equipped rooms and an auditorium, which can host up to 200 people, the FLC is the ideal choice for companies seeking venues for events and conferences.

The FLC campus is located at our Turbomachinery Solutions headquarters, which also features many advanced workshops and testing facilities. With over 5,000 employees and a history dating back to 1842, this site is an authentic icon in the Tuscan city, and a symbol of progress, technology and industrial expertise.

State-of-the-art training rooms have flexible setups to accommodate our regular courses as well as customized training to meet specific customer objectives. Facilities include classroom, meeting room, lecture theater, flip-boards, whiteboards, projection systems and teleconference devices. Dedicated IT support is available for on-the-spot assistance with laptop/network configuration and related issues.

The Florence Learning Centre is also equipped with cutting-edge technology, which includes a brand new digital lab. This environment enables our faculty to design and deliver innovative learning solutions, using the latest virtual reality technology.

MISSION:

Our mission is to be a key contributor to the industry and partner-of-choice for our customers, developing their young talent pool, maximizing their growth, both on a local and global scale and, ultimately, building a global forum based on knowledge-sharing.
WHAT TO EXPECT
Selected candidates will attend a complete top level learning experience in a dynamic and multicultural environment. They can expect interactive sessions, plant tours, hands-on and virtual-reality experiences, as well as exposure to local universities. At the end of the program, they will have the chance to join an ever-growing global network of alumni.

Candidates who successfully complete the course will have acquired:

- Broad understanding of the complete oil and gas value chain, including its products and services
- Strong leadership skills (communication, presentation, facilitation, and influencing skills)
- Knowledge of the oil and gas market's dynamics
- Technical understanding of the equipment used in the oil and gas industry segments and processes
- Ability to communicate their business vision effectively in an open and consistent manner
- Familiarity with programming language and digital systems of the industry
- Ability to provide leadership and technical direction for assigned projects
- Improved interpersonal skills

WHO SHOULD ATTEND
We are delighted to offer our customers the opportunity to have their top young talent apply for this unique learning experience. Candidates identified by their respective companies will have the following profile:

- Strong academic record with a technical background
- Strong organizational, analytical, and problem-solving competencies with the ability to interact with different levels within their organization
- An open and unprejudiced attitude towards other cultures
- Self-starter mindset and a positive attitude towards continuous life-long learning
- From one to six years of successful experience within their company
- A proven track record of handling steep learning curves, and exhibiting a ‘can-do’ attitude
- Fluent English speakers

PROGRAM FORMAT
The program exists in two formats: a 5-month residential program, which takes place at the GE Florence Learning Center; and a condensed localized program which takes place at a location selected by the customer.

RESIDENT COURSE
- 4 disciplines within a 5-month program, delivered twice a year
- Program delivered @ GE FLC
- Plant tours & hands-on experiences
- Final project to be developed by participants

LOCALIZED PROGRAM
- Customized curriculum and schedule
- Program delivered @ location chosen by customer
- Opportunity for multiple participants from the same company
- Adapted for company business culture

ALUMNI
Once the course has been completed, participants will be invited to join an alumni group, which helps them to keep connected and to continue exploring synergies between businesses, regions and cultures. This is a truly unique opportunity where we use social media to encourage networking not only between their peers, but also with participants who attended other waves.

SO FAR, WE HAVE HOSTED
999 graduates from 38 countries
99 companies participating in the programs

RESIDENT COURSE
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- Pipeline integrity and inspection 45
Classes and activities which enhance leadership and managerial tools, techniques and processes. This module focuses on:

- Personal leadership skills
- Management competencies
- Financial competencies
- Negotiation skills
- Project management

126 course hours

COURSE

Financial courses
- Finance fundamentals
- Advanced finance
- Capital budgeting and company structure

Commercial courses
- Business and company strategies
- Marketing fundamentals

Leadership skills
- Building effective leadership skills
- Facilitating effective meetings
- Influencing and communication skills
- Leadership innovation
- Negotiation fundamentals
- Presentation skills
- Project management

“Great leaders invest in people. They stretch themselves, and they stretch their teams. And they never stop learning.”

Jack Ryan
Finance fundamentals

**BENEFITS OF ATTENDING**
Understanding finance basics in order to be able to read financial reports, measure business performances (financial statements and main financial parameters).

**OBJECTIVES**
After completing this session, participants will be able to:
- Understand differences and links between Profit & Loss and Cash Flow perspective
- Read and prepare basic financial statements in order to plan and control the business activity
- Recognize and use the concepts of variable/fixed costs and direct/indirect costs

**DURATION**
Two days

Advanced finance

**BENEFITS OF ATTENDING**
Understand the impact of business decisions (e.g. selling prices, selling volumes, cost efficiency, working capital management: collection terms, payment terms, inventory management) on business profitability.

**OBJECTIVES**
After completing this session, participants will be able to:
- Measure the impact of business decisions on the profit and cash flow performances of the business
- Deepen the understanding and use of key value creation drivers of the company and KPI’s (ROI, ROS, Capital Turnover, ROE)

**DURATION**
Two days

Capital budgeting and company structure

**BENEFITS OF ATTENDING**
- Understand the investment / project evaluation process and criteria in a complex and structured organization
- Evaluate the impact of decisions in the investment/project value creation
- Understand the importance of stakeholders (internal and external) in creating the success of a project / initiative

**OBJECTIVES**
After completing this session, participants will be able to:
- Evaluate costs and benefits of a project / investment in a structured way
- Set-up a detailed and comprehensive financial analysis (including risk analysis) of a project
- Navigate organizational complexity to promote and manage the project / investment

**DURATION**
One day
LEADERSHIP COURSES
(Commercial courses)

Business and company strategies

**Benefits of Attending**
Participants will acquire a deeper understanding of company strategy, strategic tools and how to apply them to a business plan.

**Objectives**
After completing this session, participants will be able to:
- Recognize and separate Operational decisions / actions from Strategic decisions / actions
- Identify and use the key steps and tools to set-up a business strategy
- Understand the main drivers for successful Strategy execution

**Duration**
Two days

Marketing fundamentals

**Benefits of Attending**
By attending this training, participants will be able to:
- Understand the importance of marketing and the marketing process
- Understand, recognize and use fundamental marketing tools
- Focus on the perspective of the customer

**Objectives**
After completing this session, participants will be able to:
- Realize the impact of the marketing processes in the company and its contribution to the value creation process, both for the customers and for the company
- Prepare a marketing plan
- Relate daily activity to the marketing strategy of the company

**Duration**
Two days
Building effective leadership skills

**BENEFITS OF ATTENDING**
Participants will learn and be able to effectively utilize a toolkit of fundamental leadership skills including goal setting, communication, coaching and team building. This will have immediate impact and benefit for both the participant and their organization.

**OBJECTIVES**
Participants will acquire the ability to:
- Utilize style feedback to set personal development goals
- Understand the impact of style on how they lead and interact with others
- Identify appropriate coaching opportunities
- Identify their areas of strength and development as a coach
- Build and maintain a trusting team environment
- Manage conflict within a team
- Set SMART team goals

**DURATION**
Three days

Facilitating effective meetings

**BENEFITS OF ATTENDING**
Participants will learn tools and tips that are needed to plan and facilitate a meeting and how to follow-up once the meeting has been held. The learning will be immediately applicable during the remainder of the GE Oil & Gas University Program and back at work.

**OBJECTIVES**
Participants in the course will:
- Develop effective facilitation skills for meeting leaders and neutral facilitators at both face-to-face and virtual meetings
- Practice meeting facilitation skills, including developing meeting objectives, selecting and utilizing facilitation tools, building an agenda to reach meeting objectives, and managing people and conflict in meetings
- Apply the fundamental tools and skills of facilitation and the skills and knowledge learned in scenarios

**DURATION**
One day
LEADERSHIP COURSES
(Leadership skills)

Influencing and communication skills

BENEFITS OF ATTENDING
This course focuses on furthering the development of the skills and knowledge that will support participants in demonstrating the critical behaviors of influencing. The learning and tools are applicable immediately and will enable participants to have more fulfilling and rewarding interactions with anyone they need to deal with.

OBJECTIVES
After attending the course, participants will be able to:
• Develop a self-awareness regarding the impact of their own behavior on the influence process
• Plan an appropriate influencing strategy
• Identify how to use communication skills effectively in the influence process
• Recognize the importance of encouraging differing points of view
• Determine how to present a point of view in a way that enlists others’ support
• Identify how to effectively resolve conflict when it arises

DURATION
One day

Leadership innovation

OBJECTIVES
After attending the course, participants will be able to:
• Understand, identify and focus on the outcome that the customer (internal or external) is trying to achieve
• View their work and the success of their work through the lens of the customer
• Understand the importance of testing assumptions, measuring, learning, and iterating fast with customers in everyday activities
• Make a decision and take an action on their work based on customer insights: go, iterate or stop
• It will support a culture of speed, experimentation, learning and focus on what drives impact for the customer

DURATION
Two days

Negotiation fundamentals

BENEFITS OF ATTENDING
The participants will learn more about their individual negotiation style. They will gain the techniques for facing common situations with customers and suppliers.

OBJECTIVES
The main goal of the course is to provide a core platform to negotiate contracts as well as contract execution issues. It is a practical course and several negotiation simulations and activities are used.

DURATION
One day
1 LEADERSHIP COURSES (Leadership skills)

Presentation skills

**BENEFITS OF ATTENDING**
The primary objective of this course is to build the personal skill and confidence of each participant to be able to present with confidence going forward. Benefits include being able to strengthen your presentation skills with guidance on overcoming nervousness, being concise, controlling your voice, managing the audience, adapting style to audience and managing equipment.

**OBJECTIVES**
After attending the course, participants will be able to:
- Identify effective presentation skills
- Demonstrate basic skills in developing and delivering an effective presentation
- Recognize personal development needs related to developing and delivering a presentation by using feedback provided in class
- Create an action plan to improve personal presentation skills

**DURATION**
Two days

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Project management

**BENEFITS OF ATTENDING**
Participants acquire basic knowledge of project management concepts and techniques in order to meet project requirements and minimize risks.

**OBJECTIVES**
By completing the course, participants will be able to:
- Identify the different phases of a project
- Manage planning and controlling tools (Project Charter, Project Plan, etc.)
- Identify project stakeholders
- Describe the expected results of a project and subdivide major deliverables into smaller, manageable components
- Identify, document and assign project roles, responsibilities and reporting relationship
- Recognize, analyze and effectively respond to risk areas

**DURATION**
Two days
An overall view of the energy industry, its macroeconomic models and of the energy market dynamics. This module covers also:

- Energy Economics
- Energy policies and trends
- Environmental impacts and risk management
- Natural gas and LNG market dynamics
- Local content opportunities
- Oil and gas contracts and value chain
- Petroleum geology and engineering introduction

78 course hours

COURSE

Energy transitions
Environmental risk management in the oil & gas industry
Global gas scene
Local content
Oil and gas E&P contracts and value chain
Petroleum Economics
Petroleum geology and engineering introduction

“I find out what the world needs. Then I go ahead and try to invent it.”

Thomas Edison
2 ENERGY COURSES

Energy transitions

BENEFITS OF ATTENDING
This course allows participants to have a clear idea of what is behind energy transition and observe the different opportunities and challenges of the energy market.

OBJECTIVES
Participants will be able to explain the main economic, market, environmental and political forces driving energy demand, supply and prices. They will be familiar with the global trends in the renewable energy market and to understand the structure of markets for renewable energy and energy efficiency projects.

DURATION
One day

Environmental risk management in the oil and gas industry

BENEFITS OF ATTENDING
The participants will get a clear overview and understanding of the economic structure of the gas chain from production to marketing, including the impact of unconventional gas on world demand.

OBJECTIVES
• Evaluate the importance of natural gas and LNG in the world energy balance, and the strategies of the main actors of the industry
• Know the price differentiation structures and the new commercial dynamics of gas and LNG

DURATION
Two days

Global gas scene

BENEFITS OF ATTENDING
Participants will gain an understanding of how economics is employed to address environmental concerns, and how their companies can respond to governmental and international environmental policies within a market context.

OBJECTIVES
• Understand the economic theory underlying governmental environmental policies
• Recognize the right tools to manage sustainability
• Be aware of the different environmental protection measures to be carried out from individual energy projects
• Know how to build a sustainability report

DURATION
Two days

Local content

BENEFITS OF ATTENDING
The participants become familiar with the contractual strategy behind a local content management plan (LCMP) integration, knowing the key factors and the potential risks of its application.

OBJECTIVES
After completing this session, participants will be able to:
• Evaluate the challenges and the opportunities of local content
• Learn how to set-up and manage a LCMP
• Evaluate its different applications

DURATION
One day
2 ENERGY COURSES

Oil and gas E&P contracts and value chain

**BENEFITS OF ATTENDING**
The participants will be provided with the keys to understanding the E&P business with a global map of the milestones in the E&P value chain and decision process. They will take away basic knowledge and understanding of key contractual and economic criteria for managing oil and gas projects.

**OBJECTIVES**
After completing this session, participants will be able to:
- Read and understand oil and gas patrimonial contracts and joint-operating agreements
- Evaluate lifting entitlement and economic rent sharing for various types of contracts
- Single out important contractual issues that need to be negotiated carefully in order to preserve a win-win situation
- Understand, challenge and discuss the results of a project’s economic evaluation
- Start modeling oil and gas investment projects within their company’s economic analysis team

**DURATION**
Two days

Petroleum Economics

**BENEFITS OF ATTENDING**
After attending this course, participants will have acquired a comprehensive insight into the fundamental economic features of the oil and gas business, including long term key drivers.

**OBJECTIVES**
Upon completing the course, attendees will be able to:
- Explain the main economic, market, environmental, and political forces driving energy demand, supply and prices
- Connect the key links and terms of the oil and gas industry, from the exploration well to the final products
- Understand the challenges and opportunities affecting the oil and gas markets and their clients (oil and gas companies)

**DURATION**
Two days

Petroleum geology and engineering introduction*

*In partnership with the TOP Energy Training Program, established as a consortium between three American universities (Colorado School of Mines, Penn State University and the University of Texas at Austin).

**BENEFITS OF ATTENDING**
After attending this interactive course, participants will have acquired a comprehensive insight into hydrocarbons exploration and production, the different drilling processes and petroleum technologies (such as stimulation, decommissioning and reclamation, etc.).

**OBJECTIVES**
After completing this session, participants will be able to:
- Recognize reservoir properties and their relation to hydrocarbon exploration and production
- Know the tools used to estimate reserve and calculate it
- Understand the different petroleum technologies

**DURATION**
Three days
This discipline provides participants with the fundamentals of coding and technology which is being used to accelerate the speed at which we work in the oil and gas industry. The module also covers production, transportation and transformational processes.

- Big Data
- Coding
- Digital Twin
- Measurement and sensing instrumentation
- Natural gas & LNG chain
- Petrochemical processes
- Power generation and cogeneration
- Refining processes

90 course hours

“It doesn’t matter whether you are in sales, finance or operations. You may not end up being a programmer, but you will know how to code.”

Jeff Immelt
BENEFITS OF ATTENDING
Participants will gain a strong knowledge of how digital systems can impact the oil and gas industry so that processes, services, products and factories are managed in a more efficient way.

OBJECTIVES
After completing this session, participants will be able to:
• Discuss the history of Python and how it is used in different industries
• Define how Python compares to other programming languages
• Describe the benefits of Python workflow when looking at data
• Demonstrate basic Python programming fundamentals to solve a real-world problem
• Create a custom learning plan to build data science
• Learn about the concept and vision of a Digital Twin
• Understand the mechanics of a Component and Power Plant Twin
• Build awareness of how Artificial Intelligence can impact the oil and gas business

DURATION
Nine days

BENEFITS OF ATTENDING
Participants will learn the fundamentals of flow, gas and moisture measurement, sensing and inspection technologies and applications including: ultrasound, para-magnetic, electrochemical, digital and film radiology, and test machines.

OBJECTIVES
After completing this session, participants will have gained:
• Knowledge of Ultrasonic Flow and inspection systems and applications
• Knowledge of Moisture Sample systems and applications
• Knowledge of Gas Measurement systems and applications
• Knowledge of Radiographic Inspection systems and applications
• Knowledge of Remove Visual Inspection systems and applications

DURATION
Two days
3 DIGITAL & PROCESS (Process courses)

**Downstream processes & economics**

**BENEFITS OF ATTENDING**
Participants will be better acquainted with refining and petrochemical challenges, fundamentals and processes, the integration between both businesses, their respective economic environment, economics, and margin concepts.

**OBJECTIVES**
After completing this session, participants will be able to:
- Describe the refining and chemical economic environment
- Understand refining and petrochemical processes
- Explain key principles of refining and petrochemicals
- Understand the concepts behind refining margins and its relationship with process units
- Understand refining and petrochemical integration

**DURATION**
Two days

**Natural gas & LNG chain**

**BENEFITS OF ATTENDING**
This course allows participants to consolidate their knowledge base of the main technical and contractual features of the natural gas and LNG chain, from the production well to the final consumer, and familiarize with emerging outlets in the LNG world.

**OBJECTIVES**
After completing this session, participants will be able to:
- Evaluate the economics of each part of the natural gas and LNG chain
- Identify the main LNG markets and their evolution
- Understand the new opportunities in the LNG industry

**DURATION**
One day

**Power generation**

**BENEFITS OF ATTENDING**
Participants will benefit from a complete overview of available power generation technology (gas turbines, steam turbines, combined cycle, solar energy, nuclear, wind, etc.) and will become familiar with examples of combined cycles calculations. They will also have the opportunity to estimate lifecycle cost / investment of the different technology used.

**OBJECTIVES**
After completing this session, participants will be able to:
- Have a deeper knowledge about the several ways to produce electricity
- Identify the main parameters for calculating a combined cycle
- Work out a gross estimate of the cost of GT / combined cycle / steam cycle plants

**DURATION**
One day
4 EQUIPMENT

A deep dive into oil and gas technology with theoretical and basic information on equipment design, operation and maintenance:

• Drilling and field management equipment
• Compressors, turbines, pumps and valves
• Subsea production systems and equipment
• Pipeline inspection and integrity
• Maintenance and asset optimization
• Inspection technologies
• Pumps and control valves
• Troubleshooting

174 course hours

COURSE
Oil and gas product familiarization

Turbomachinery
Aeroderivative & Heavy Duty gas turbines
Centrifugal compressors
Centrifugal pumps & control valves
Modularization insights
Reciprocating compressors
Steam turbines

Drilling & Subsea Equipment
Artificial lift and beam pumping system
Drilling
Pressure control
Subsea equipment

Maintenance & Services
Compression plant troubleshooting and remedial actions
Equipment operation and maintenance (hands on)
Pipeline integrity and inspection

“Know thyself. Know the customer. Innovate.”
Beth Comstock
EQUIPMENT COURSES

4

Oil and Gas product familiarization

BENEFITS OF ATTENDING
The course addresses the complexity of the subject while at the same time, simplifies concepts to provide an accurate and clear overview of the oil and gas world, from exploration to distribution.

OBJECTIVES
After this course, participants will have acquired a set of concepts which will allow them to understand the oil and gas world through a “simplified layout.”

Participants will possess a better technical understanding of the oil and gas value chain and will be able to place each product or technology in the right segment and process of the business.

DURATION
Four days

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EQUIPMENT COURSES
(Turbomachinery)

Aeroderivative & Heavy Duty gas turbines

BENEFITS OF ATTENDING
The objective is to provide participants with an overview of aeroderivative and Heavy Duty gas turbines together with operating principles and technological solutions. Participants will acquire a deep knowledge of these two different gas turbine models, comparing the respective performances and components. After the course, participants will be able to determine what type of engine should be selected for applications in the oil and gas industry.

The course will be followed by a workshop visit.

OBJECTIVES
After completing this session, participants will be able to:
- Understand the gas turbines operating principles and applications
- Gain awareness of the gas turbines’ control and combustion principles
- Understand the aero engine mechanics and package layout
- Recognize pros and cons of aeroderivatives versus heavy duty engines

DURATION
Two days
ENLISTED COURSES
(Turbomachinery)

Centrifugal compressors

BENEFITS OF ATTENDING
The goal of the course is to give participants deeper knowledge about the most important equipment in an oil and gas plant. It helps to figure out how compressors are selected inside a production facility, which are the main components and how to operate them.

Course might be followed by a workshop visit.

OBJECTIVES
After completing this session, participants will be able to:
• Be more familiar with the concepts of centrifugal compressor selection, performance and operability
• Be more familiar with the main components of the compressor and their impact on the plant

DURATION
Two days

Centrifugal pumps & control valves

BENEFITS OF ATTENDING
The objective of the course is to help participants become more acquainted with pump design, selection and operation in different type of plants. They will learn the basic aspects of the control valve to understand its benefits, how it works and recommendations for purchasing specification. These are also complemented by modules on thermodynamic and mechanical equipment.

The course will be followed by a visit to the GE Oil & Gas plant in Bari.

OBJECTIVES
After completing the course, participants will have:
• A greater understanding of the basic design of centrifugal pumps and drivers
• More familiarity with the basics of operations and troubleshooting
• A deeper understanding of thermodynamics and international standards on valves
• Increased awareness of basic plant startup procedures to avoid valves failure

DURATION
Two days
BENEFITS OF ATTENDING
Participants will get a full understanding of both the advantages and the challenges of modularizing turbomachinery units, such as GTG and GTC, in order to make the best choices at the beginning of a project (conceptual / feasibility study level). In addition, attendees will be able to understand the role of the customer, which decisions a customer has to take and when to facilitate the design and actively contribute to the success of the project.

OBJECTIVES
After completing this session, participants will be able to:
• Identify the CTQ to decide if the modularized solution is the best option for their needs
• Decide which items the modularized solution should always include
• Discuss the modularization design process steps and conditions
• Understand the impact in terms of time and cost of some specific requirements and decisions
• Gain more knowledge about the value proposition concept of modularized solutions

DURATION
One day

BENEFITS OF ATTENDING
Participants will receive the basic knowledge to understand the functioning principles, the international standards and application limits for reciprocating compressors.

Class will be followed by a workshop visit.

OBJECTIVES
After the course, participants will be able to
• Understand the operating principles of reciprocating compressors
• Recognize the most critical components of reciprocating compressors

DURATION
Two days
Steam turbines

BENEFITS OF ATTENDING
Attendees will have a detailed overview of the main aspects related to steam turbines design and will understand the impact of customer requirements on the machine's design. Steam turbines will also be treated in the end user's perspective: main protections, maintenance and basic operability concepts will be analyzed during the course.

The course will be followed by a workshop visit.

OBJECTIVES
After completing this session, participants will be able to:
• Understand the basic concepts behind the thermal cycle and the thermodynamics of steam turbines
• Become more knowledgeable about the differences between impulse and reaction technology, understanding the impacts on the architecture of the machine and on the design of the main components (rotor, blades, casings, etc.)
• Become more aware of the main applications of industrial steam turbines (both for mechanical and generator drive)
• Identify the main protections required to operate industrial steam turbines and understand the basic concepts related to the start-up of steam turbines
• Understand the maintenance philosophy of GE Oil & Gas steam turbines
• Have an overview about the latest research and development programs of the GE Oil & Gas product line

DURATION
Two days

EQUIPMENT COURSES
(Drilling & Subsea Equipment)

BENEFITS OF ATTENDING
Upon completion of the class, participants will possess the knowledge to be able to explain, in their own words, the purpose and principle of operation of an ESP system and its main components. They will be able to make informed decisions on the use of ESPs in artificial lift applications and will have a good understanding of the selection process required for choosing an ESP for a specific application.

OBJECTIVES
After attending the course, participants will be able to:
• State the EHS hazards and comply with the EHS regulations in the training environment
• State the EHS hazards and comply with the EHS regulations on the equipment being taught
• State the purpose and describe different types of artificial lift equipment
• State the purpose and describe the principle of operation of GE artificial lift equipment
• State ESP selection considerations
• Describe how to configure a basic ESP system
• State the purpose of ancillary and special products
• Explain the coding nomenclature for GE artificial lift equipment

DURATION
One day
EQUIPMENT COURSES
(Drilling & Subsea Equipment)

Drilling

BENEFITS OF ATTENDING
The course describes the conditions which impact safety and reliability in deep-water drilling operations, and identifies the systems and equipment used to facilitate drilling under those conditions. The course creates an opportunity for participants to become familiar with the theory of operation for each component, and to develop a high-level understanding of capital drilling equipment and its surface controls.

OBJECTIVES
Upon completing the course, participants will be able to:
• Compare and contrast the factors which impact land and offshore drilling activities
• Identify the types of oil rigs used in different drilling operations
• Identify the major capital drilling equipment required for a deep-water operation
• Describe the component and system operation of capital drilling equipment
• Identify the primary and ancillary components of a multiplex (MUX) blowout preventer (BOP) control system

DURATION
One day

Pressure control

BENEFITS OF ATTENDING
The course will provide participants with a better understanding of how and when certain sections of a wellhead are used in the field.

OBJECTIVES
After completing this session, participants will be able to:
• Identify the oilfield tubulars used in the oilfield
• Understand the wellhead sections used pertaining to the casing strings being run

DURATION
Two days

Subsea equipment

BENEFITS OF ATTENDING
Participants will gain insight into a different business segment of GE Oil & Gas to broaden their knowledge and understanding of the oil and gas industry.

OBJECTIVES
Gain understanding and knowledge of the exploration and production industry and GE Oil & Gas subsea products complementing this market segment:
• Set section tests
• Group participation
• Case study

DURATION
Two days
Compression plant troubleshooting and remedial actions

**BENEFITS OF ATTENDING**
Attendees will become familiar with compression system operation and troubleshooting concepts and presented with remedial actions taken on real field experience. Lessons learned from field experience and design for reliability / availability concepts will also be discussed and analyzed.

**OBJECTIVES**
Upon completing the course, participants will be able to:
- Identify a number of possible operational constraints in different oil plant compression systems
- Discuss the concepts of Availability, Reliability, FMEA and Cause & Effect analysis
- Specify systems and components allowing for the best availability
- Cite examples of compression sealing system design, gas path protections, etc.
- Fill out a "To Do" list of their most urgent action items that are related to troubleshooting activities

**DURATION**
One day

Pipeline integrity and inspection

**BENEFITS OF ATTENDING**
Although focused on pipelines, by attending this course the participant will understand the principles of asset integrity management. When correctly applied, these principles can ensure that an asset can perform its required function effectively and efficiently whilst protecting health, safety and the environment over the whole lifecycle of the asset.

**OBJECTIVES**
The aim of this course is to provide the attendees with a basic understanding of the issues relating to oil and gas pipelines and their integrity. Following the course, each attendee should be able to:
- Understand the major elements of pipeline design and the differences between design codes
- Recognize the effects of the pipe-manufacturing route on pipeline integrity
- Identify the key pipeline degradation mechanisms
- Select and apply appropriate assessment criteria for pipeline defects
- Understand risk assessment methodologies and the pipeline integrity management processes
- Understand how defects are measured in-ditch and recommend repair methods for pipeline defects

**DURATION**
One day

Equipment operation and maintenance (hands on)

**BENEFITS OF ATTENDING**
Understand the importance of a rotating machine's correct maintenance, recognize the critical components and make a connection between components and drawings. Theory is followed by practice with workshop activities, where participants can practice with some of the most important maintenance tasks and understand how to use instruments and special tools.

**OBJECTIVES**
Upon completing the course, participants will be able to:
- Identify a number of essential components
- Discuss basic concepts of maintenance
- Single out the most critical components
- Describe the function of each component identified

**DURATION**
Six days
We believe that the best approach to learn is "learning by doing"; this is why we offer participants the opportunity to gain several hands-on experiences on the operation and maintenance of equipment at the GE Global Service Technical Training Academy, a facility of approximately 2,200 square meters completely designated to practical learning on turbomachinery and control. With three control labs equipped with LIMs and the most advanced technology devices, an additional 140 square meters’ control room and a mechanical lab, the Global Service Technical Training Academy is the right place to develop the technical expertise of field service engineering.

GE OIL & GAS MANUFACTURING & BRILLIANT FACTORIES VISITS

During the residential course, participants visit GE Oil & Gas manufacturing plants to see first hand the latest technology and solutions. The GE Oil & Gas plant in Florence houses centrifugal and axial compressors, gas turbine models and other equipment. The plant in Massa is used for assembly and testing; and the plant in Bari is where the main downstream technology solutions are produced and new products are developed. In addition to that, they will learn what GE Industrial Modules look like, by visiting the Avenza yard, a worldwide site of excellence hosting ten bases for industrial modules assembly in its 240,000 square meters.

FLORENCE

MASSA & AVENZA

BARI

TECHNICAL TRAINING ACADEMY
The GE Oil & Gas University learning experience provides an outstanding network. Our alumni network is a valuable resource which enables hundreds of high-potential professionals from the oil and gas industry to continue to keep in touch, and share their knowledge, expertise, and connections.

GE Oil & Gas University provides former participants with the right tools to maintain and build connections so that they can get to know alumni from other years, share their perspective on the industry, and participate in alumni events in the same geographical areas.

You can access all our alumni information and resources from the GE website: https://www.geoilandgas.com/university

GE Oil & Gas University - A history of success
https://www.youtube.com/watch?v=y6rvA9D3uA0

GE Oil & Gas Alumni network on LinkedIn
https://www.linkedin.com/groups/4855920/profile

PARTNERS
Since its launch, GE Oil & Gas University has collaborated with prestigious institutions, academic professors and thought leaders in the oil and gas industry, building a unique knowledge-sharing network of professionals.

OIL & GAS UNIVERSITY EVENTS & CELEBRATIONS
We plan many events for our course participants, not only to offer them the opportunity to expand their professional network, but also to celebrate their successes. Ceremonies, teambuilding activities, seminars, meetings with GE professionals, business dinners, etc. are part of this exclusive experience with GE Oil & Gas University.

A DECADE OF A SOLID, EXCLUSIVE EXPERIENCE
For more than a decade, the GE Oil & Gas University program has been hosting hundreds of talented young people, from all over the world. Since 2005, our Resident Course has offered a unique and inspiring experience for representatives from our key customers from around the globe.