IFP Training

Training Program for Downstream Public Workshops in Tehran, Iran

برنامه آموزشی کارگاه های تخصصی صنعت نفت، گاز، پالایش و پتروشیمی در سال ۹۶ (مدیریت، اقتصاد و فرایند)

- Refining-Petrochemicals Synergies ..... ۹۶ ۱۹ تا ۲۱ تیرماه
- Hydrotreatment Processes ..... ۹۶ ۹ تا ۱۱ مرداد
- Main Commodity Polymers (Olefins & Aromatics) ..... ۹۶ ۱۳ تا ۱۵ شهریور
- Profitability Analysis of Downstream Investment Projects ..... ۹۶ ۳ تا ۵ مهرماه
- Liquefied Natural Gas Economics ..... ۹۶ ۱ تا ۳ آبان ماه

IFP Training
at a Glance

IFP Training, Our Strength Drawn from a Unique Group

A Public Research Institution in Energy, Transport & the Environment

IFP Energies nouvelles

Public research institution in energy, transport & the environment.

- **1,132** Researches
- **11,500** active patents
- **Nobel Prize** in Chemistry

Education & Training → ← *Oil & Gas Industry Development* →

IFP SCHOOL

Graduate school in energy & transport.

- 600 students each year
- 10 Master Programs
- 17 Doctoral

IFP Training

Leader in professional oil & gas training.

- 380,00 professionals trained since 1975.

RSI create, evaluate, operate

Leading provider of process simulation solutions for the Oil & Gas industry.

Axens IFP Group Technologies

Leading provider of catalysts for Refining & Petrochemical for the production of clean fuels.

- Equipment in 42% of the world's refineries
- More than 55,000 tons of catalysts and adsorbents sold every year.

BeicipFranlab

Leader in Geosciences Consulting & software for exploration and reservoir development

HEURTEY PETROCHEM

Forerunner in process furnaces for refining, petrochemicals & hydrogen production.

PROSERNAT

Specialized in Process Technologies Licensing and Modular Treatment Units Supply.

Key Facts & Figures

IFP Training at a Glance

IFP Training was created in 1975 within the IFP Group to meet the training and continued education needs of professionals from the Oil, Gas, Chemical, and Powertrain industries.

15,600 PARTICIPANTS each year

80 NATIONALITES represented

1,400 TRAINING SESSIONS held each year

1,200 CLIENTS worldwide

550 different TRAINING COURSES

100 full-time INSTRUCTORS

600 industry EXPERTS

Training

Customized Solutions to Meet Industry Needs

PUBLIC
6 Training Centers

IN-HOUSE
On-Demand Training

LONG PROGRAMS
Master Degrees
Graduate Diplomas
International Certification

Training Solutions

MULTI-DISCIPLINARY
Solutions Covering the Entire Oil & Gas Chain

SHORT PROGRAMS
Learning the essentials

MULTI-LEVEL
from Discovery to Advanced

CUSTOMIZED SOLUTIONS
Adapted Duration & Tailored Content

Some of Our International Clients

Americas

Chevron
ExxonMobil
PDVSA
PETROBRAS
PETROECUADOR
YPFB

Europe

bp
CITROËN
ENGIE
eni
Lubrizol
PEUGEOT
PERENCO
RENAULT
REPSOL
Schlumberger
Technip
TOTAL
VEOLIA

Middle East

ADNOC
Bapco
KNPC
sabic
Saudi Aramco
ENOC
NIOC
Qatar Petroleum

Africa

ETAP
GNPC
SHT
SNH Cameroun
SNPC
Sonangol

Asia

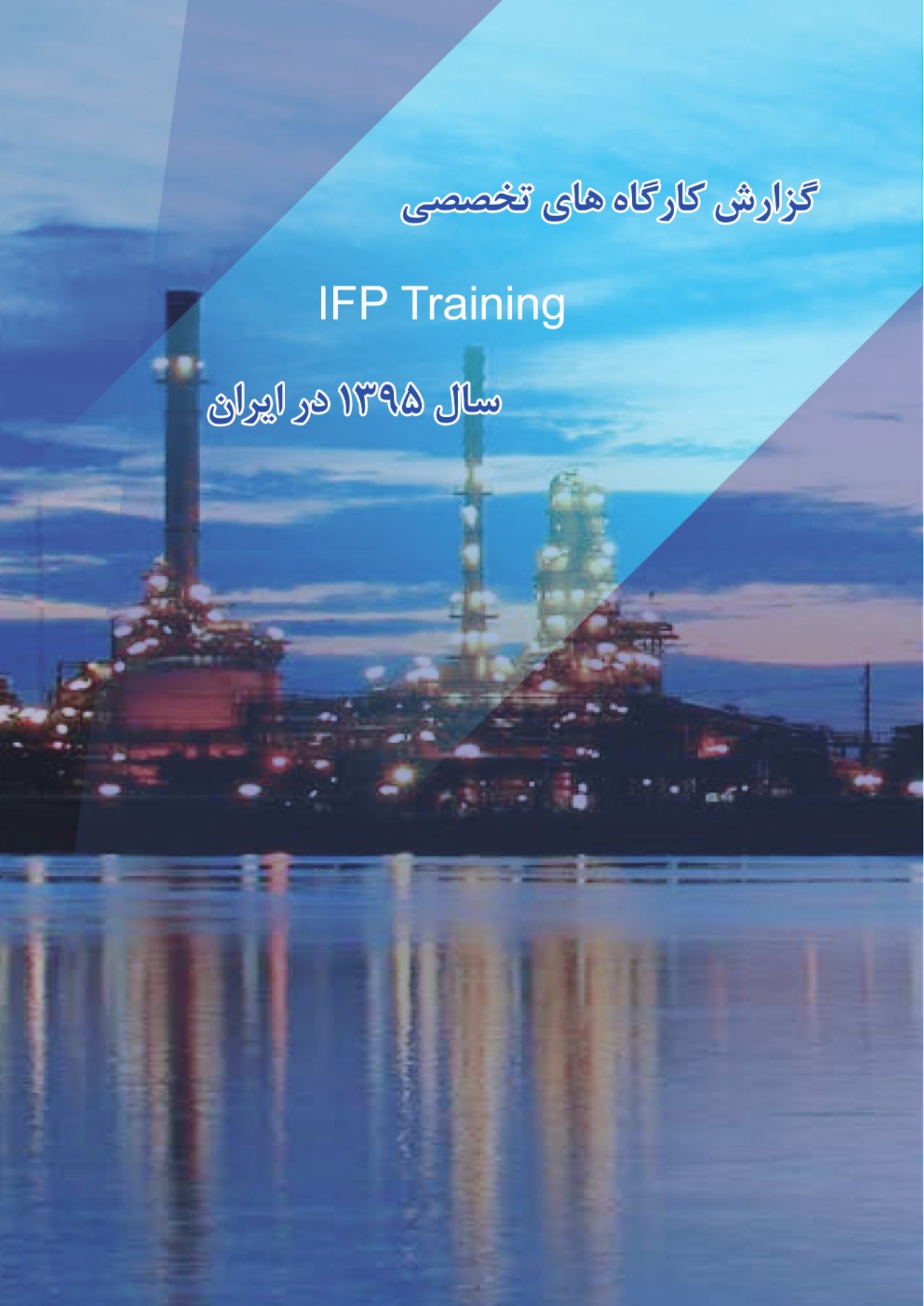
CNPC
ONGC
PERTAMINA
PETRONAS

Russia/CEI

GAZPROM
GAZPROM NEFT
LUKOIL
ROSNEFT
Statoil

IFP Training

Programs In IRAN



گزارش کارگاه های تخصصی

IFP Training

سال ۱۳۹۵ در ایران

Public

RECENT DEVELOPMENTS IN OIL REFINING TECHNOLOGIES

Tehran Grand Hotel
3-Day Public Workshop (5th -7th September 2016)
۱۵ تا ۱۷ شهریور ۹۵

PURPOSE

To provide an up-to-date information on present and future trends of oil refining processes (focused on middle distillates and heavy cuts).

AUDIENCE

Level: ADVANCED
Engineers, process or technical staff interested in recent developments in oil refining technologies.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

- Get a broad vision of future from technical, safety and environmental constraints for the refining industry.
- Deepen knowledge of recent developments in the heavy cuts of the oil refining processes.
- Learn how the latest breakthroughs can help meet the new challenges.

AGENDA

- Refinery Products and Process Evolution Outlook for 2020
- FCC: More Propylene or More LCO
- Gasoline and Sulfur Reduction Strategies
- Ultra - Low Sulfur Diesel Production and VGO Deep Hydro treatment
- Hydrocracking for Vacuum Distillates and Residues
- Thermal Conversion of Residues

Frederic Morel

- Frederic Morel has more than 35 years of experience in Oil Refining. He worked previously at IFPEN (Institut Français du Petrole Energies Nouvelles) as research engineer, then as project leader for hydro processing of distillates and residues, and finally as manager of department for oil refining processes development.
- After joining Axens in 2001, he was elected as manager of technical services for technologies of hydro processing and conversion before being manager of the product line for the conversion of VGO, Residue and Coal, and finally as expert director.
- He has been involved in advance design of more than 300 International Oil Refineries.

Comments:

آقای مهندس گرگانی- مدیر مهندسی شرکت مهندسی و ساختمان صنایع نفت OIEC

"با تشکر از دوستان ایرانی CBC برای برگزاری کارگاه های آموزشی IFP . این کارگاه برای معرفی تکنولوژی های آتی Axens و آشنایی با آنها بسیار مفید بود. این تکنولوژی ها برای افزایش کمّی تولید و انطباق آنها با استانداردهای زیست محیطی، تحقیق و توسعه یافته و روز به روز در سطح کیفی بالاتر ارتقا می یابند. "

Comments:

آقای مهندس متاجی- مدیر برنامه ریزی شرکت ملی پالایش و پخش فرآورده های نفتی ایران NIORDC

" دوره مفیدی برای مهندسین پالایش و مدیران پالایشگاه ها و برنامه ریزی است. این دوره ها سبب میشود که با دید بازتر نسبت به توسعه صنایع پایین دستی تصمیم گیری نمایند. این دوره ها کمک زیادی به حل مشکلات موجود می کنند. در فاصله کوتاهی که در این دوره حضور داشتم دو مسئله مهم برای اینجانب در فرآیندهای تبدیل مواد نفتی روشن گردید که در برنامه ریزی فرآیند مد نظر قرار خواهم داد. "

آقای مهندس میرقادری- مشاور مدیر عامل و رئیس امور برنامه ریزی و بررسی های مالی و اقتصادی شرکت ملی پالایش و پخش فرآورده های نفتی ایران NIORDC

"کشور ما به دلیل انباشتگی روز افزون فرآورده های سنگین و بهره برداری از چاه های نفت جدید با مشخصات نفت خام سنگین و فوق سنگین در بخش بالا دستی، نیازمند به ورود به تکنولوژی های نوین و پیشرفته به منظور بازآوری این خوراک ها و محصولات آنهاست. دانش فنی روز، آشنایی با تکنولوژی های مدرن در این زمینه بایستی به هرطریق ممکن کسب و متخصصین ما به این دانش روز تجهیز گردند. سمینارها، دوره های علمی برگزار شده از جمله دوره های آموزشی برگزار شده IFP از بهترین و مهم ترین دوره های منطبق با این موضوع می باشد."

خانم مهندس خمارلو- مدیر امور مهندسی فرآیند / مکانیک شرکت مهندسین مشاور سازه

" آشنایی با دستاوردهای جدید در پالایشگاه ها از طریق این کارگاه بسیار مفید بود. با توجه به شرایط جدید، جهت به روزرسانی پالایشگاه ها، لازم است جهت آشنایی افراد این صنعت این کارگاه ها در همه زمینه ها برگزار گردد. از مسئولین این کارگاه نهایت تشکر را دارم."

آقای مهندس میرعلی اکبر- مدیر بخش فرآیند – شرکت مهندسی و ساخت نارگان

" دوره آموزشی IFP با محوریت موضوع پیشرفت های اخیر در تکنولوژی های پالایش نفت بسیار موثر است، چرا که با توجه به وضعیت محصولات پالایشگاه های موجود از طرفی و وضعیت متغیر بازار خرید محصولات از طرف دیگر، در تشخیص بهتر نیازهای سرمایه گذاری برای شرکت های بهره برداری و مهندسین مشاور موثر واقع می شود."

Sponsor of Workshop:

شرکت صنایع رنگینه و کاتالیست پارس، اسپانسرمحترم این کارگاه آموزشی تخصصی بوده است.

PP&C
صنایع رنگینه و کاتالیست پارس

Participants:

NARGAN Engineers & Constructors
PP&C صنایع رنگینه و کاتالیست پارس
OICO
OIEC
EIED
SAZEH CONSULTANTS
TZ.O.R.C
T.O.R.C
S.R.I.C
شرکت جاوید انرژی پرتو

CATALYSTS IN PETRO-REFINING PROCESSES

(Catalytic Reforming, FCC/RFCC, Isomerization, Hydro Processing, SRU Processes)

3-Day Public Workshop (12th -14th December 2016)

۲۲ تا ۲۴ آذر ۹۵

PURPOSE

Deepen understanding of catalysts: their preparation use, unit start-up, performance control, troubleshooting during operation, unit shut down and regeneration.

AUDIENCE

Level: ADVANCED

Engineers and managers in the operations, Project engineers, process engineers or technical assistance and commissioning personnel in engineering or licensing and catalyst suppliers.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able:

- To grasp the role and the basic mechanism of a catalyst.
- To learn the methods for performance monitoring.
- To understand the issues related to industrial use (start up, shutdown, regeneration,etc)
- To analyze the influence of operating parameters on catalytic selectivity and stability.

PREREQUISITE

Being familiar with the contents of the “Refining Processes and Petroleum Products” course .

AGENDA

- CHARACTERISTICS AND PROPERTIES OF INDUSTRIAL CATALYSTS
- OPERATION AND PERFORMANCE CONTROL OF INDUSTRIAL CATALYSTS
  - Catalytic reforming catalysts
  - Isomerization catalysts
  - Catalytic cracking catalysts
  - Hydrotreatment and hydrocracking catalysts
  - Catalysts for Claus converter and tail gas treatment

Christine Travers

- Christine Travers, Executive Vice President of Refining & Chemicals of IFP Training

Her professional experiences include:

- Director and Supervisor of the Refining ,Petrochemicals and Gas Center at IFP School
- Research Professor and Developer of commercial catalysts for refining and petrochemical processes at IFPEN

Christine Travers Publications:

- Author of 66 IFP Patents in Catalysis and Refining processes
- 56 Publications for national and international congresses and scientific reviews
- Co-author of "Conversion Processes" published by TECHNIP
- President of Refining Committee of AFTP (French Association of Petroleum Technicians) since 2012.

Sponsor of Workshop:

شرکت طراحی و مهندسی صنایع انرژی اسپانسر محترم کارگاه آموزشی تخصصی کاتالیست بوده است.

Comments:

آقای مهندس منشادی- مدیر مهندسی فرآیند شرکت ملی مهندسی و ساختمان نفت ایران NIOEC

" دوره بسیار خوب و مفیدی بود.استاد هم بسیار مسلط بودند.نقاط ابهام زیادی راجع به کاتالیست های پالایشگاهی از قبیل مکانیزم کاتالیست ها و همچنین فرآیند های پالایشگاه برطرف گردیدند. "

آقای مهندس عابدین افشار- مدیر مهندسی شرکت مدیریت و توسعه پتروشیمی باختر

"بعنوان یک طراح و یا مصرف کننده کاتالیست (End User) متوجه این نکته شدم که با توجه به خوراک واحد و کیفیت محصولات مورد نظر پروژه، می توان از سازنده یا تامین کننده کاتالیست در خواست نمود، برخی از پارامتر های تاثیر گذار کاتالیست مانند (Acid function, Metal function and ...) را با اعمال تغییرات جزئی در اجزای تشکیل دهنده آن ، جهت بر آورده نمودن اهداف پروژه، تنظیم نماید."

آقای مهندس روح اللهی- مدیر توسعه بازار R&D Manager شرکت گسترش فناوری خوارزمی

" دوره ای مناسب جهت آشنایی با مفاهیم کاتالیستی و ارائه ایده به محققان و تولیدکنندگان کاتالیست به منظور ساخت کاتالیست با ویژگی های مورد نیاز فرآیندهای شیمیایی فراهم گشت."

آقای دکتر بزرگ زاده، قائم مقام پژوهشکده کاتالیست - پژوهشگاه صنعت نفت

" دوره خوبی برای کاتالیست های هیدروتریتینگ و هیدروکراکینگ می باشد، که مرور کلی در ارتباط با ساخت این نوع کاتالیست ها ،روش های مختلف شناسایی و بعضی از نکات کلیدی صحبت شده است. در ضمن آشنایی کامل در ارتباط با فرآیند های پالایشگاهی و احیای کاتالیست های غیر فعال شده، آمده است که بعضی از نکات آنها بسیار مفید واقع شد."

We are greatful to announce according to Surveys:
Total Satisfactory of IFP Training course including quality, topic and Instructor was 90%...!!!

Participants:

HSE MANAGEMENT IN-HOUSE COURSES
FOR PGPIC TOP MANAGERS & HSE MANAGERS

Location: Persian Gulf Petrochemical Industries Company (PGPIC)
Two consecutive 1+3 days In-house Workshop

- 14th & 15thJanuary 2017 for Top Managers / ۲۵ و ۲۶ دی ۹۵
- 16th – 18th January 2017 for HSE Managers / ۲۷ تا ۲۹ دی ۹۵
- 21th - 23th January 2017 for HSE Managers / ۲ تا ۴ بهمن ۹۵

Result announced by PGPIC for Training Assessment of In-house training for Top Managers Held in Tehran

14 January 2017		15 January 2017	
Lecturer Score	92	Lecturer Score	92
Course Material	90	Course Material	90
Training Services & Facilities	93	Training Services & Facilities	90

Result announced by PGPIC for Training Assessment of In-house training for HSE Managers Held in Mahshahr and Assaluyeh

16 - 18 January 2017		21-23 January 2017	
Lecturer Score	91	Lecturer Score	90
Course Material	92	Course Material	91
Training Services & Facilities	90	Training Services & Facilities	88

Gratefully Total Satisfactory of IFP Training course including lecturer, course material and Training services according to PGPIC Survey's was more than … 90%...!!!

International Certification

for Industry Professionals

برنامه کارگاه های تخصصی

IFP Training

سال ۱۳۹۶ در ایران

Refining-Petrochemicals Synergies (3 days)

PURPOSE

This course provides a complete review of the main refining and petrochemical specificities, as well as the identification of the possible synergies. It highlight the economic gains achievable from refining-petrochemicals integration.

AUDIENCE

Level: PROFICIENCY
Staff from refining and petrochemistry involved in production, planning, procurement, marketing, management control and investment.

LEARNING OBJECTIVES

Upon completion of the course, the participants will be able to:

- Describe the main specificities of the refining and petrochemical sectors
- Identify the possible synergies between refining and petrochemistry
- Explain the economic challenges and the main factors of these sectors' profitability
- Analyze the effects of these synergies

WAYS AND MEANS

- Quiz, examples
- Case studies and exercises in team work

PREREQUISITES

- Basic knowledge of refining and petrochemical unit operations.

AGENDA

TECHNICAL REVIEW OF REFINING AND PETROCHEMISTRY — *1 day*

Main petroleum and petrochemical products: key product specifications review
Refining and petrochemical schemes
HSE specifications: refining (H_2S, etc.), petrochemicals (product instability, etc.)

SYNERGIES BETWEEN REFINING AND PETROCHEMISTRY — *1 day*

Utility exchanges: H_2, gas, fuel
Supply: ethane, LPG, naphtha, atmospheric gasoil, vacuum distillate
Product exchanges: pyrolysis gasoline, olefins
Common treatment of the C4 cuts: BTX (Benzene-Toluene-Xylene) extraction
Pooling services

REFINING AND PETROCHEMICALS ECONOMICS — *1 day*

Refining and petrochemical margins and cost
Location and unit severities effects
Gains due to synergies
Case study: Economics of a refinery, of a steam cracker and of the integration of both (with some synergies)

Language	Location	Date	Fee (Euro)	Registration Contacts
English	National Petrochemical Company	10-12 July 2017 ۲۱-۱۹ تیر ۹۶	به ازای هر نفر ۹۵۰ یورو	Training@cbcoilandgas.com 0912-0848343 ,021-88558601 نگین صنایع / مدیر برنامه/ مهندس فرآیند

❊ حداکثر ظرفیت تعداد شرکت کنندگان ۲۷ نفر می باشد.

HYDROTREATMENT PROCESSES (3 days)

PURPOSE

To deepen understanding of the operating, monitoring and optimizing of hydrotreatment units.

AUDIENCE

Level: ADVANCED

Engineers, senior operation personnel or technical supervisory staff interested or involved in the operation of hydrotreatment units. Engineers from research centers and engineering companies involved in the different aspects of the operation and process control of these units.

LEARNING OBJECTIVES

Upon completion of the course, the participants will be able to:

- Grasp the essence of hydrotreatment processes.
- Analyze the operation and optimization of hydrotreatment units.
- Manage the hydrogen balance in relation with the hydrogen network.
- Detect potential deficiencies by troubleshooting.
- Assess how to meet main breakthroughs for ultra-low desulfurization requirements.

WAYS AND MEANS

- Applications, teamwork, case studies and interactive workshops based on typical real situations
- Use of a simulator by the trainer to illustrate the evolution of the operating variables.

AGENDA

OBJECTIVES OF HYDROTREATMENT PROCESSES — *0.25 day*

Impurities in petroleum cuts and products; their impact on health, environment and on other refining processes. Highly refractory compounds.

Recent regulations and future trends: quality specifications of petroleum products and fuels in relationship with concerns mentioned above.

Aim of the various treatments with hydrogen and integration in the refining scheme: hydropurifications of straight run cuts, stabilization or saturation of cracked cuts.

CHEMICAL REACTIONS AND HYDROTREATMENT CATALYSTS — *0.5 day*

Characteristics of the chemical reactions involved: thermodynamic and kinetic aspects, consequences on the operation of units, side reactions and optimum operating conditions to deplete their evolution, specific features of reversion reactions.
Characteristics of the catalysts for hydro-purification and for hydrogenation: effect of molybdenum, cobalt and nickel, importance of the substrate, selection criteria for a hydrotreatment problem. Top gradings.
Loading of the catalyst. Internals in the reactor.
Presulfiding procedures: role, steps and details of the different methods.

OPERATION OF A DISTILLATE HYDROTREATMENT UNIT — *0.75 day*

Operating conditions and compositions of the main streams; mass balance and yields, sulfur balance and hydrogen balance and consumption.
Significance of the operating variables and their influence on the process: mean temperatures and profile, pressures, partial pressure of hydrogen, recycle rate, quench ratio, feed flow rate and space velocity.
Advanced process control and optimization of the process.
Management of the hydrogen network in the refinery. Effect of feed composition and origin. Catalyst follow up and cycle length optimization, ageing and deactivation.
Regeneration steps and monitoring.
Maximizing the performances of the unit under constraints or limit conditions.

DISTURBANCES, INCIDENTS AND TROUBLESHOOTING — *0.75 day*

Causes of quality decrease and corresponding actions.
Main automatic safety systems.

Feed pump failure, heater failure.
Compressor failure: fresh gas or recycle, adapted reaction and safe shut down.

PERFORMANCE OF THE VARIOUS HYDROTREATMENT UNITS *0.5 day*

For each of the following processes, the operating parameters and the specific operating features are explained.
Naphtha desulfurization for catalytic reformer and isomerization feed. Cracked gasoline treatments, special hydrotreatments for the FCC gasoline. Stabilization of the pyrolysis gasoline.
Hydroisomerization of the C4 cut out of the FCC to feed alkylation unit. Hydrotreatment of middle distillates: kerosene and gas-oil, LCO processing. Desulfurization of vacuum gasoil to FCC units.
Residues demetallization processes. Hydrotreatments in lube oil manufacturing. Hydrogen manufacturing or enrichment processes.

SPECIFIC DEVELOPMENTS TO MEET THE ULTRA-LOW DESULFURIZATION OF GASOLINE AND DIESEL FUELS *0.25 day*

High performance catalysts, grading materials, advantage of the dense loading, technology of the reactor and exchangers, operating conditions, recycle gas treatment, hydrogen purification, advanced process control.

Language	Location	Date	Fee (Euro)	Registration Contacts
English	CBC Training Center	31 July -2 August 2017 ۹-۱۱ مرداد ۹۶	به ازای هر نفر ۹۵۰ یورو	Training@cbcoilandgas.com 0912-0848343 ,021-88558601 نگین صنایع / مدیر برنامه/ مهندس فرآیند

- محل برگزاری دوره ، مرکز آموزشی CBC واقع در تهران می باشد.
- حداکثر ظرفیت تعداد شرکت کنندگان ۲۷ نفر می باشد.

MAIN COMMODITY POLYMERS (Olefins & Aromatics)

Duration 3 days

PURPOSE

To provide a global overview of the petrochemical chain, from oil and gas to polymers and plastics, with a special focus on the main commodity polymers.

AUDIENCE

Level: ADVANCED

Professionals in the oil, petrochemicals or plastics industry. Specifically for engineers and technical staff working in Research, Product or Process Development, Production, Supply chain, Trading, ...

LEARNING OBJECTIVES

Upon completion of the course, the participants will be able to:

- To grasp the economic framework of the petrochemical industry, within the world of energy, from oil and gas to polymers and plastics,
- To know the main sources of olefinic and aromatic base chemicals
- To understand the reasons behind the astonishing growth rate of polymers: diversity and adaptability to each application by proper choice of monomer(s), reaction mechanisms, type and setting of polymerization reactor(s), additives...
- To review the value chains, main markets, product types and associated manufacturing processes for the five major commodity polymers **(PE, PP, PVC, PS, PET)**.

WAYS AND MEANS

- Detailed course material.
- Pictures and small movies of main equipment.
- Presentation of samples of different end uses applications.

AGENDA

SOURCES AND MAIN INDUSTRIAL USES OF OLEFINIC AND AROMATIC BASE CHEMICALS — *0.75 day*

- Petrochemicals within the world of energy:
  - World primary energy. Definition of petrochemicals.
  - Mass balance of the world petrochemical industry. Growth rate.
- Main production processes:
  - Olefins: Steam cracking, fluid catalytic cracking, syngas + MTO
  - Aromatics: Catalytic reforming, Reaction and separation units of an Aromatic complex.
- Outlets and main uses of:
  - Olefinic and diolefinic hydrocarbons: ethylene, propylene, butenes, butadiene
  - Aromatics hydrocarbons: benzene, toluene, ethylbenzene, styrene, xylenes.

POLYMERS DIVERSITY and ADAPTABILITY — *0.25 day*

- Definitions (monomers, polymers, copolymers, molecular weight, molecular weight distribution, etc.)
- Various polymerization reaction mechanisms.
- Various types of polymerization reactors.
- Modifiers, additives.

POLYOLEFINS — 1.0 day

- Economic importance of polyolefins
  - Various types of polyethylenes and polypropylenes. Main applications
  - History of their development
- Zoom on high pressure polyethylene
  - Autoclave and tubular reactors, chemical mechanisms leading to long and short chain branchings
  - Energy balance and conversion rate
  - Specific high pressure technology
- Zoom on catalytic polyolefins
  - Mechanisms of particle growth. Critical importance of residence time distribution
  - Solution, slurry, gas phase reactors. Cascade of reactors. Bimodal capability
  - Presentation of main PE processes available for licensing, with their optimal product range
  - PP polymerisation. Isotacticity. Controlled rheology. Importance of heat stabilizers
  - Presentation of main PP processes available for licensing, with their optimal product range.

POLYSTYRENE — 0.25 day

- Styrene-Polystyrene value chain. Main markets.
- Various types of polystyrene; their main applications.
- Mass process description. Phase inversion for high impact polystyrene. Specific technology for degassing

POLYVINYLCHOLRIDE (PVC) — 0.25 day

- Chlorine-VCM-PVC value chain. Economic importance
- Chlorine production. Caustic soda co-product. VCM production.
- Various types of PVC; their main applications.
- Suspension batch process. Optimization of cycle time

POLYETHYLENE TEREPHTHALATE (PES/PET) — 0.25 day

- (PX-TPA)-(Ethylene-EO)-PES/PET value chain. Economic importance. Fibers and plastics markets
- Polycondensation mechanisms. Description of modern processes
- Bottles manufacturing. PET bottle recycling

POLYMERS and ENVIRONMENT - CONCLUSIONS — 0.25 day

- Is exceptional growth rate of polymers sustainable?
- Life cycle analysis; surprising examples. End of life not the only criteria.
- Polymers in packaging, in transport, in construction. Are they useful for environment?
- Bio-sourced and biodegradable polymers. Their future?
- Conclusion of session.

Language	Location	Date	Fee (Euro)	Registration Contacts
English	National Petrochemical Company	4 -6 September 2017 ۱۵-۱۳ شهریور ۹۶	به ازای هر نفر ۹۵۰ یورو	Training@cbcoilandgas.com 0912-0848343 ,021-88558601 نگین صنایع / مدیر برنامه/ مهندس فرآیند

* حداکثر ظرفیت تعداد شرکت کنندگان ۲۷ نفر می باشد.

Profitability Analysis of Downstream Investment Projects (3 days)

PURPOSE

This course provides an in-depth understanding of the concepts behind the theory of capital budgeting, leading to an improvement of the analysis in investment profitability studies.

AUDIENCE

Level: PROFICIENCY
Managers and staff concerned with decision affecting medium and long term cash flows (such as investment, disinvestment and acquisitions); people who need to improve their understanding of the theory and the practice of investment analysis.

LEARNING OBJECTIVES

On completion of the course, the participants will be able to:

- Use tools related to an investment profitability analysis,
- Incorporate terms of financing plans in equity profitability analysis,
- Build complex computer models for cash flow analysis,
- Carry out risk analysis of investment projects.

WAYS AND MEANS

- Case studies and exercises derived from actual refinery situations.

AGENDA

ECONOMIC CRITERIA — *0.75 day*

Value creation, capital cost and discount rate of a company.
Equity and debt, Corporate finance and return on capital, ROCE and ROE. Cash flows and discounting principle.
Net Present Value (NPV), Internal Rate of Return (IRR), Pay-Out Time (POT), financial exposure, profitability index.

GLOBAL PROFITABILITY ANALYSIS — *0.75 day*

Analysis of operating cash flows and economic criteria.
Return on capital employed.
Profit and Loss accounts and associated project income taxes.
Impact of taxation and inflation in profitability investment studies.
Choice of an investment program with a limited budget, scarcity cost of capital.

RISK ANALYSIS — *0.5 day*

Risk analysis methodology.
Sensitivity analysis in investment decision, Spider and Tornado charts.
Limits of sensitivity analysis.

CASE STUDIES ON INVESTMENT PROFITABILITY — *1 day*

Octane improvement: implementation of isomerization and/or alkylation process units.
Hydrocracker project.
Refinery project.
Steam cracker project.

Language	Location	Date	Fee (Euro)	Registration Contacts
English	National Petrochemical Company	25-27 September 2017 ۵-۳ مهر ۹۶	به ازای هر نفر ۱۲۵۰ یورو	Training@cbcoilandgas.com 0912-0848343 ,021-88558601 نگین صنایع / مدیر برنامه/ مهندس فرآیند

❊ حداکثر ظرفیت تعداد شرکت کنندگان ۲۰ نفر می باشد.

LNG Economics (3 days)

PURPOSE

This training provides an overview of the economic and contractual aspects of the LNG (Liquefied Natural Gas) value chain.

AUDIENCE

LEVEL: PROFICIENCY
This training is beneficial to professionals from the oil and gas industries, managers in gas and LNG activities or from the banking, insurance, investment and consulting sectors.

LEARNING OBJECTIVES

Upon completion of the course, participants will be able to:

- evaluate the economics of each part of the LNG value chain,
- analyze the basic structure of LNG contracts,
- identify the main LNG markets and their evolution,
- evaluate the profitability of investments in the LNG industry.

WAYS AND MEANS

- quizzes
- videos
- examples of contracts
- exercises on LNG contracts

AGENDA

GLOBAL GAS SCENE & LNG MARKETS — *1 day*

Natural Gas uses, reserves, supply and demand.
New outlets for LNG (retail LNG).
International gas trades and importance of the LNG.
Evolution of the LNG trading and pricing.
Main LNG markets: America, Europe and Asia (Mature markets: Japan and South Korea & emerging markets: China, India, …).
Risks for the different LNG actors: liquefaction, shipping, portfolio players, buyers, …
Unconventional gas and its impact on LNG markets.

TECHNICAL ASPECTS OF THE LNG CHAIN — *1 day*

LNG: properties and specifications.
Design of the different parts of the LNG chain.
Liquefaction plants, LNG tankers, regasification terminals.
Main projects of LNG terminals in the world and their exploitation.
Capital expenditures and operating costs.
Economic evaluation of a LNG project.
New trends in the LNG industry: FLNG, FSRU, small scale LNG.

LNG CONTRACTS — *1 days*

Main features and important articles in LNG contracts.
LNG pricing: price formulae, indexation and net-back value.
Tolling agreements.
Impact of gas markets liberalization and third-party access to regasification terminals.
Coexistence between long-term contracts and short-term contracts.

Language	Location	Date	Fee (Euro)	Registration Contacts
English	CBC Training Center	23-25 October 2017 ۳-۱ آبان ۹۶	به ازای هر نفر ۱۲۵۰ یورو	Training@cbcoilandgas.com 0912-0848343 ,021-88558601 نگین صنایع / مدیر برنامه/ مهندس فرآیند

- محل برگزاری دوره ، مرکز آموزشی CBC واقع در تهران می باشد.
- حداکثر ظرفیت تعداد شرکت کنندگان ۲۰ نفر می باشد.

E&P Management Workshops-CBC Upstream Training Program

Triple EEE

- Public relations In the oil and gas industry ..... ۲۶ و ۲۷ تیرماه ۱۳۹۶
- How to build and use an e&p economic model ..... ۲ تا ۴ مردادماه ۱۳۹۶
- Building a successful joint Operating agreement ..... ۱۶ تا ۱۸ مرداد ماه ۱۳۹۶
- Financing oil and gas field developments ..... ۲۳ تا ۲۵ مردادماه ۱۳۹۶
- Upstream Operational Excellence ..... ۶ تا ۸ شهریورماه ۱۳۹۶
- E&P Knowledge Management & Decision Making ..... ۲۰ تا ۲۲ شهریورماه ۱۳۹۶

مدیر برنامه کامران جوادی
۰۹۱۲۸۳۸۳۹۹۸
۰۲۱۸۸۵۵۸۷۵۰
kamaran@cbcoilandgas.com

IFP Training Public Workshops- CBC Downstream Training Program

- Refining-Petrochemicals Synergies ..... ۱۹ تا ۲۱ تیرماه ۹۶
- Hydrotreatment Processes ..... ۹ تا ۱۱ مرداد ۹۶
- Main Commodity Polymers (Olefins & Aromatics) ..... ۱۳ تا ۱۵ شهریور ۹۶
- Profitability Analysis of Downstream Investment Projects ..... ۳ تا ۵ مهرماه ۹۶
- Liquefied Natural Gas Economics ..... ۱ تا ۳ آبان ماه ۹۶

نگین صنایع / مدیر برنامه / مهندس فرآیند
۰۹۱۲-۰۸۴۸۳۴۳ ,۰۲۱-۸۸۵۵۸۶۰۱
Training@cbcoilandgas.com

IFP Training Catalogs

for your Professional Development

Refining & Chemicals

Economics & Management

IFP Training

232, Avenue , Napoleon Bonaparte
92852 Rueil- Malmaison Cedex
France
www.ifptraining.com

CBC Oil & Gas

De Werf 7C
2544 EH The Hague
The Netherlands
Training@cbcoilandgas.com
021-88558601