

International PGPEH Programme



and



Introduces

**WEB ENABLED ADVANCED
CERTIFICATION PROGRAMME
IN
APPLIED PETROLEUM ENGINEERING
AND HYDROGEN ENERGY(PGPEH)**

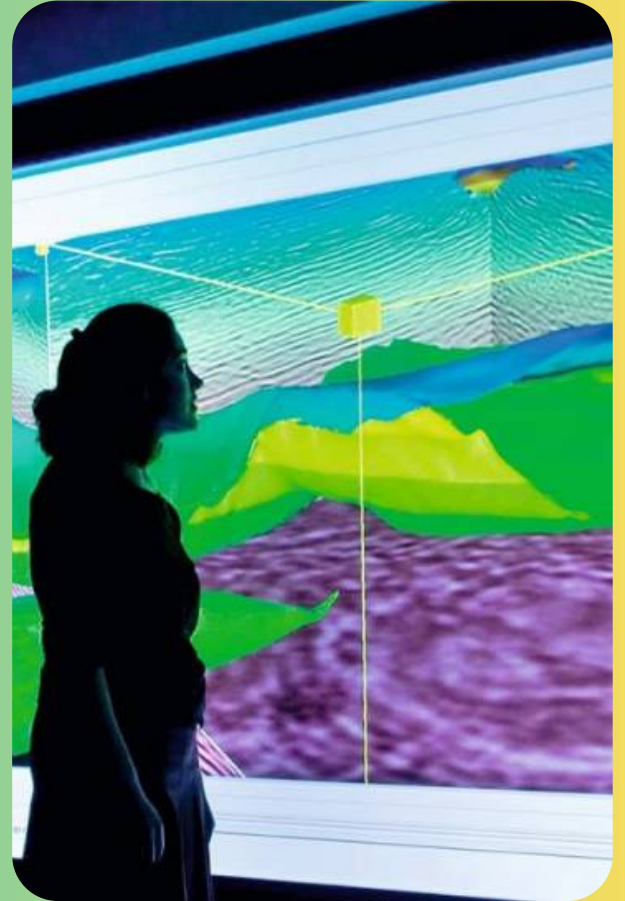
Upstream & Downstream



ABOUT US

IITM PRAVARTAK

IITM Pravartak is a Section 8 Company of IIT Madras. It is funded by the Department of Science and Technology, Government of India, under its National Mission on Interdisciplinary Cyber-Physical Systems, and hosted as a Technology Innovation Hub (TIH) by IIT Madras.



ZEMBLANCE HYDROCARBONS

Zemblance Hydrocarbons, a company located in the IIT Madras research park, was established by faculty and alumni of IIT Madras. Our company specializes in offering a range of services and research solutions to upstream oil and gas companies. With our advanced technologies and patented innovations in coal gasification and hydrogen production, we are at the forefront of the industry. Leveraging our strong background in research and academia, Zemblance also provides an educational technology (EdTech) program aimed at enhancing the knowledge of working professionals and students in the fields of petroleum and renewable energy. Through our program, individuals can upgrade their expertise and stay abreast of the latest developments in these industries.



IIT Madras is an esteemed engineering institute in India renowned for its exceptional academic standards, research contributions, and innovative initiatives. It offers EdTech programs through the Digital Skills Academy of IITM Pravartak, a Section 8 company of IIT Madras. With a robust alumni network and consistent top rankings among engineering institutes in India, IIT Madras stands out as a leading institution.

The Petroleum Engineering Programme at IIT Madras holds a significant position, ranking 21st globally according to the QS Ranking and being the top-ranked program in India. The university actively engages in advanced research collaborations with companies in the oil and gas industry, as well as those involved in hydrogen production. The Petroleum Engineering curriculum at IIT Madras focuses primarily on the upstream activities of Petroleum Exploration and Production, emphasizing reservoir characterization, Petroleum Geomechanics, and the emerging field of Hydrogen Energy. These studies encompass both modeling and experimental investigations, ensuring a comprehensive approach to research and education.



ABOUT PROGRAMME

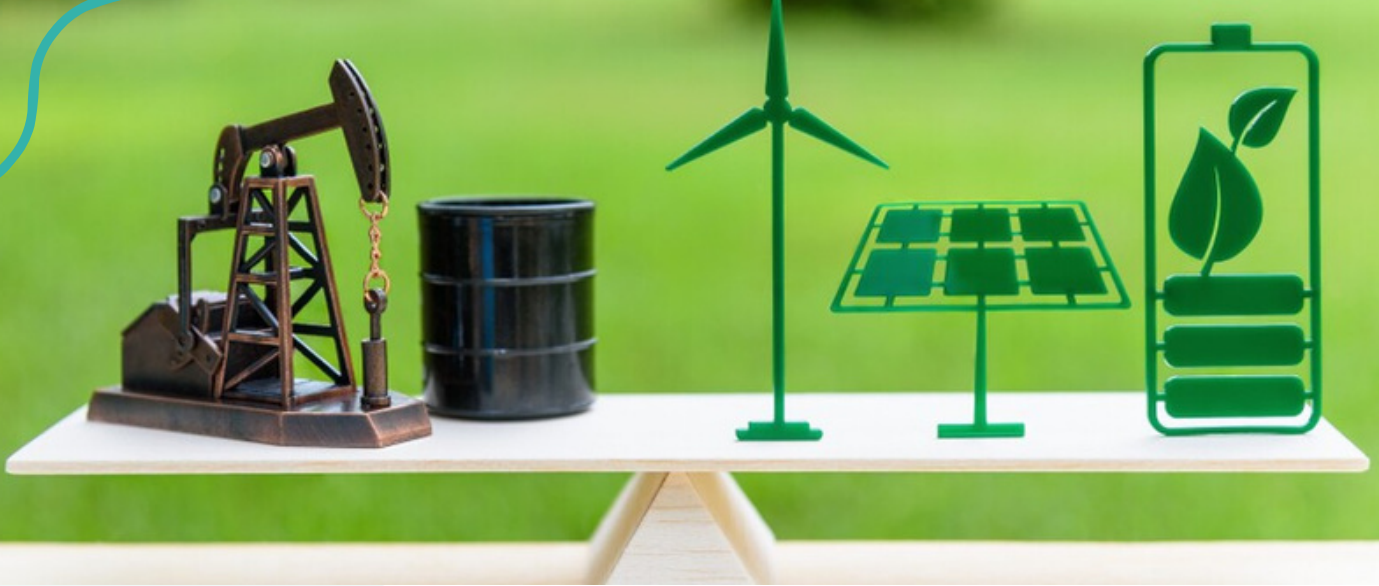


In collaboration with IITM Pravartak, Zemblance Hydrocarbons Pvt. Ltd. started the "Web enabled PG Level Advanced Certification Programme in Applied Petroleum Engineering and Hydrogen Energy" (PGPEH). This hybrid program combines web-enabled courses in Petroleum Engineering and Hydrogen Energy, addressing industry requirements. With a rigorous academic curriculum and state of the art research facilities, the program prepares students for success in the field.

STRONG POINTS

This comprehensive program is designed to provide students with an adaptive syllabus that not only enhances their employability but also enables them to stay updated with real-time industry advancements. The duration of each course spans 3 months.

Structured around a quarter system, the program encompasses core courses, elective subjects, and industry-based projects. Throughout the program, students will engage in a well-rounded learning experience. This ensures that students are equipped with the necessary skills and knowledge to excel in the oil & gas, coal, renewable, and Hydrogen industries.



Embracing Change Through Transformative Technologies

Who can Join this programme

- Students seek to augment their understanding of oil and gas through practical field applications while maintaining a solid foundation in theoretical principles.
- Individuals seeking to embrace new technologies in oil and gas for reservoir characterization and reservoir management, also shift from the Oil Industry to Hydrogen Energy Production, the Coal Industry to Methane/Hydrogen Production, or the Oil/Coal Industry to Blue and Green Hydrogen Production, as well as students and recent graduates aspiring to contribute to the oil/coal/hydrogen sectors, are encouraged to enroll in this course.



Projects that improve problem-solving abilities and facilitate adaptation to emerging technologies.



Daily and weekly assignments/tasks with real-time industry problems and case studies



Finally to enhance the knowledge in the broad spectrum of Petroleum Industry and Hydrogen energy



PGPEH

Online Classes with international/National faculty and Industry Experts



DETAILS

COURSES

10 Upstream Focused
Courses
or
10 Downstream Focused
Courses

ELIGIBILITY

Participants must have passed graduation in Engineering/Technology or Masters in any relevant science subjects or working professionals in oil&gas industry or allied areas

INSTRUCTORS

IIT Madras Faculty,
Major oil and gas Experts
with several years of
experience

DURATION

3 Months per course
12 sessions/week
3 live sessions in a month

Each recorded session will be about 25 minutes and uploaded to the server and participants can get access. Each topic sessions will be updated on the server.

PGPEH PROGRAM CURRICULUM

UPSTREAM FOCUSED COURSES

- **Course 1:** Strategic, Corporate Finance, Risk analysis, Green Finance, and decision making
- **Course 2:** Advanced oil and gas drilling, Multilateral and horizontal well technology and production engineering
- **Course 3:** Reservoir modeling and simulation: Reserve estimation, EOR Techniques, Cap Rock Analysis and integrated reservoir management
- **Course 4:** Underground Coal Gasification & Surface Gasification with Applied Thermodynamics: Methods, Technology, Applications
- **Course 5:** Renewable Energy (Geothermal, Wind, Solar, and Battery), Bio-Fuels : Production, Transportation, Storage, and Application
- **Course 6:** Hydrogen Production
 - i. Methane steam reforming
 - ii. Electrolysis
 - iii. Biomass
- **Course 7:** Hydrogen Transportation and Storage
- **Course 8:** Applied Oil and Gas Seismic Data Analysis and Advanced Interpretation
- **Course 9:** Petroleum Geomechanics and field applications
- **Course 10:** Application of Machine Learning (ML) and Artificial Intelligence (AI) in the Oil and Gas Industry

PGPEH PROGRAM CURRICULUM

DOWNSTREAM FOCUSED COURSES

- **Course 1:** Strategic, Corporate Finance, Risk analysis, Green Finance, and decision making
- **Course 2:** Renewable Energy (Geothermal, Wind, Solar, and Battery, Alternative Fuels): Technologies, Applications, and Policies
- **Course 3:** Advanced Enhanced Oil Recovery Techniques: Field Applications
- **Course 4:** Underground Coal Gasification using Applied Petroleum Engineering methods & Surface Gasification: Methods, Technology, Applications
- **Course 5:** Crude oil Refining and Process Technology: Refinery Operations, Process Control, Emerging Technologies, and Management
- **Course 6:** Petrochemicals: Process Design and Optimization, Sustainable Petrochemical Manufacturing
- **Course 7:** Hydrogen Production: i. Methane steam reforming ii. Electrolysis iii. Biomass
- **Course 8:** Hydrogen Transportation and Storage
- **Course 9:** Bio-Fuels (Bio-Ethanol, Compressed Bio Gas, Sustainable Aviation Fuel): Production, Transportation, Storage, and Application
- **Course 10:** Machine Learning (ML) and Artificial Intelligence (AI), Signal Processing in oil and gas industry

Course Evaluation

- Each course is assisted with 2 teaching assistants, who can help the candidates with doubts clarification, assignments and course material
- The Programme's evaluation process include assignments, online-tests and viva. Final exams will be offline conducted at the centers across India to ensure a thorough assessment and qualification of candidates

Course Grading and Credit System

Program follows Grade Point Average (GPA) system. GPA is on a scale of 0 to 10. Letter grades and CGPA are awarded to learners based on the following criteria:

Grade	Points
S	10
A	9
B	8
C	7
D	6
E	4
U	0

A minimum D grade should be obtained by the candidate for obtaining this PGPEH Programme certificate .



Fee Details

15,000 INR including GST per each course for ongoing final year students

1.5 Lakh INR including GST for total 10 courses in the programme (upstream or downstream) for ongoing final year students

30,000 INR + 18% GST per each course for passed out students, contract employees, etc.,

3 Lakh INR + 18% GST for total 10 courses in the programme (upstream or downstream) for passed out students, contract employees, etc.,

40,000 INR + 18% GST per each course for working professionals in oil&gas industry or other allied industries

4 Lakh INR + 18% GST for total 10 courses in the programme (upstream or downstream) for working professionals in oil&gas industry or other allied industries

- Candidates can apply directly by fill the below form <https://forms.gle/QYBGigy4VgPZT1TA> or writing to info@zemblance.com
- The course starts from 5th September 2023
- For further information please communicate through email id: info@zemblance.com or contact us at +91-9177787341 / 82810 96149

IITM Pravartak Technologies Foundation
enquiry@pravartak.net
B5, IIT Madras Research Park, Kanagam
Road, Taramani, Chennai, Tamil Nadu
600113

Zemblance Hydrocarbons
info@zemblance.com
D4-08, IIT Madras Research park,
Kanagam road, Taramani, Chennai,
Tamil Nadu 600113

IIT Madras Faculty

Experienced Faculty from various departments from IIT Madras and abroad universities are the course instructors for this PGPEH programme

- Mechanical Engineering
- Management Studies
- Electrical Engineering
- Computer Science Engineering
- Petroleum Engineering Programme

Industry Experts (India and International)

Experienced Industry Experts from Indian national oil companies and International companies are the course instructors for this PGPEH programme

Faculty

Applied Petroleum Engineering and Underground coal gasification



Shri. R K Dhasmana
Former Executive Director and
Basin Manager KG Basin, ONGC
EdTech Director, Zemblance Hydrocarbons



Shri. Sidhartha Sur
Former Executive Director
Ex- Head: Institute of Reservoir Studies
ONGC



Shri. Ghana Gogoi
Former Executive Director)
Oil India Ltd.



shri. Praveen Jaiman
Former GM (Production)
Former Head: Graduate Trainee
Group ONGC



Shri. Basudeb Sarkar
Former Chief GM
(Production)
ONGC



Shri. Arun Datta
Former Chief Engineer
(Production)
ONGC



Dr. Venkatesh A
IIT Madras Alumni
Researcher & CTO -
Zemblance Hydrocarbons



Dr. Rajesh R Nair
Professor
Petroleum Engineering
Programme
Department of Ocean Engineering
IIT Madras



Dr. Vamegh Rasouli
Professor & HOD
Department of Energy and
Petroleum Engineering
University of Wyoming
United States of America



Dr. M. Thenmozhi
Professor & HOD
Department of
Management Studies
IIT Madras

Hydrogen Energy



Dr. SSV Ramakumar
Director (R&D)
IOCL



Dr. R K Malhotra
Former Chairman and Director (R&D)
IOCL



Dr. Manivannan P. V.
Associate Professor
Department of
Mechanical Engineering
IIT Madras

Renewable Energy, Refining of Crude & Processing and Production



Dr. K. Srinivas Reddy
Professor
Department of
Mechanical Engineering
IIT Madras



Dr. V. Raghavan
Professor
Department of
Mechanical Engineering
IIT Madras



Dr. Hari Vuthaluru
Associate Professor
WA School of Mines: Minerals,
Energy and Chemical Engineering
Curtin University
Australia



Shri. MV Ravi Someswarudu
Former Executive Director (O&M-CO)
GAIL (India) Limited



Shri. T.N.K Bapiraju
CGM - Technical Services
Crude Refining
CPCL

ML and AI and Signal Processing in Energy Industry



Dr. R. David Koilpillai
Qualcomm Institute
Chair Professor
Department of Electrical
Engineering
IIT Madras



Dr. Chandra Shekar L
Associate Professor
Department of Computer
Science & Engineering
IIT Madras



Dr. Minou Rabiei
Associate Professor
Department of Energy and Petroleum
Engineering
University of Wyoming
United States of America



Dr. Kalyanaraman Venugopal
Associate Research Scientist
Department of Energy and Petroleum Engineering
University of Wyoming
United States of America

Certification Institutes

This Programme is Jointly certified by IITM Pravartak (a Section 8 company of IIT Madras) and Zemblance Hydrocarbons (IIT Madras Research Park Company).

IITM Pravartak

a Section 8 Company and Technology Innovation Hub of IIT Madras

IITM Pravartak is funded by the Department of Science and Technology, Government of India, under its National Mission on Interdisciplinary Cyber-Physical Systems, and hosted as a Technology Innovation Hub (TIH) by IIT Madras. The NM-ICPS is a comprehensive Mission aimed at complete convergence with all stakeholders by establishing strong linkages between academia, industry, Government, and International Organizations. IITM Pravartak joined hands with many Industries and launched EdTech Programmes and issuing certificates to participants.

Zemblance Hydrocarbons

an IIT Madras Research Park Company

Zemblance Hydrocarbons, is an IIT Madras Research Park Company, specializes in offering a range of services in the oil and gas as well as the Hydrogen Energy industry. Their services are backed by a robust research and development (R&D) approach, focusing on the development of innovative technologies within the industry. Zemblance, in partnership with IITM Pravartak, has recently launched a certification program focused on Applied Petroleum Engineering and Hydrogen Energy.



Sample Certificate



CERTIFICATE

of Completion

completed “Advanced Certification Programme in Applied Petroleum Engineering and Hydrogen Energy ”
held from _____ to _____
through IITM Pravartak Technologies Foundation (Technology Innovation Hub of
IIT Madras) & Zemblance Hydrocarbons Private Limited

R K Dhasmana
EdTech Director
Zemblance Hydrocarbons
Former Executive Director
ONGC KG Basin

Prof. K. Mangala Sunder
Programme Coordinator, Digital Skills Academy
Professor Emeritus
Department of Chemistry, IIT Madras

Prof. Rajesh R Nair
Faculty Sponsor
Society of Petroleum Engineers (SPE)
IITM Chapter, Advisor Zemblance Hydrocarbons

Dr. M J Shankar Raman
CEO
IITM Pravartak Technologies Foundation

- An Individual certificate will be provided on qualifying individual course
- PGPEH Certificate will be provided for all the 10 courses with respective to each stream (upstream or downstream)

For Registration and payment

Fill the below form

<https://forms.gle/QYBGigy4VgPZT1TA>

or

Send your details to info@zemblance.com

our bank details

Zemblance Hydrocarbons Private Limited

A/c No: 921020030850668

IFS Code: UTIB0003003

Axis Bank

Gandhi Nagar, Chennai

Tamil Nadu - 600020

Reach us

Zemblance Hydrocarbons Private Limited
D4-08, Module 4, D- Block, IIT Madras Research Park
Kanagam Road, Taramnai, Chennai
TamilNadu, India - 600113
GST No: 33AACCZ0892L1ZZ
info@zemblance.com

Contact us

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www.zemblance.com

www.pravartak.org.in

