TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000537

Renewable Energy

The Renewable Energy Course is a training program dedicated to the study of various renewable energy sources, their operating principles, technologies and applications.



Learn from the Best in the Business!

Course overview

Intermediate level

Why take this course

The Renewable Energy Course is a training program dedicated to the study of various renewable energy sources, their operating principles, technologies and applications. This course covers the following aspects:

• Types of renewable energy sources: solar energy, wind energy, hydropower, biomass, geothermal energy and others. Provides an overview of each type of energy source and their potential.

• Operating principles of renewable energy technologies, such as the structure of solar panels, the operation of wind generators, the operating principle of hydraulic turbines, bioenergy processes and other technologies.

• Advantages and disadvantages of renewable energy sources, analysis of environmental, economic and social aspects of the use of renewable energy sources.

• The course may include the completion of specific projects, laboratory work, or modeling of renewable energy systems. Together we will search for sources of renewable energy.

• Trends and prospects for the development of renewable energy, an overview of current trends in the industry, research and innovation in the field of renewable energy sources.

Gaining knowledge about renewable energy will help you understand the importance and prospects for the development of clean energy sources in the modern world.

Who it is for and how it helps

The Renewable Energy course will be of interest to the following professionals:

• Power Engineers: Specialists involved in the development and operation of energy systems in oil and gas industry enterprises;

• Environmental Engineers: These specialists can learn about ways to reduce the carbon footprint and mitigate the negative environmental impact through the use of renewable energy sources;

• Sustainability Managers: Specialists engaged in sustainable development strategies and corporate social responsibility;

• Project Managers: Specialists responsible for managing projects in the oil and gas sector;

• Technical Specialists in Operation and Maintenance: These specialists can familiarize themselves with the technical aspects of integrating renewable energy sources into existing infrastructure and learn how to properly maintain such systems;

• Analysts and Researchers: Specialists involved in market analysis and research of new technologies;

• Design Engineers and Developers: Specialists engaged in the development and modernization of equipment.

Course overview — continued

What you will learn

- Understand the main types of renewable energy sources, including solar, wind, hydro, bio, and geothermal energy, and their specific features
- Explain the operating principles of various renewable energy technologies, such as solar panels, wind turbines, hydro systems, and biomass
- Recognize the environmental benefits of using renewable energy sources and their impact on the environment
- Apply practical skills through projects, such as evaluating the suitability of different types of renewable energy for their region or assessing the potential for solar energy in their area

Curriculum

Modules 01–06

01 Introduction to Renewable Energy Sources

- What are renewable energy sources? General overview and history of development
- Why are renewable energy sources important today? Environmental, economic, and social aspects

02 Main Types of Renewable Energy Sources

- Solar energy – principles of operation, applications, and potential
- Wind energy – how wind turbines work, their efficiency, and deployment
- Hydropower – principles of hydro turbines, their importance, and impact on ecosystems
- Biomass and geothermal energy – energy generation, technologies, and sustainability of use.

03 Renewable Energy Technologies

- Solar panel technologies and their innovations
- Progress and technological development in wind and hydropower installations
- Bioenergy and geothermal energy: current achievements and challenges

04 Advantages and Disadvantages of Renewable Energy

- Environmental benefits and potential risks
- Economic aspects: cost, investments, and ROI (return on investment)
- Social impact: employment, community development, and policy

05 Practical Assignments and Projects

- Analysis and selection of the type of renewable energy for a local project
- Modeling a renewable energy system for small or medium-sized businesses
- Developing a proposal for integrating renewable energy sources into municipal infrastructure

06 Trends and Future of Renewable Energy

- New technologies and innovations in renewable energy
- Political and economic trends affecting the development of the industry
- Overview of global and regional sustainable development initiatives

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000537 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

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