

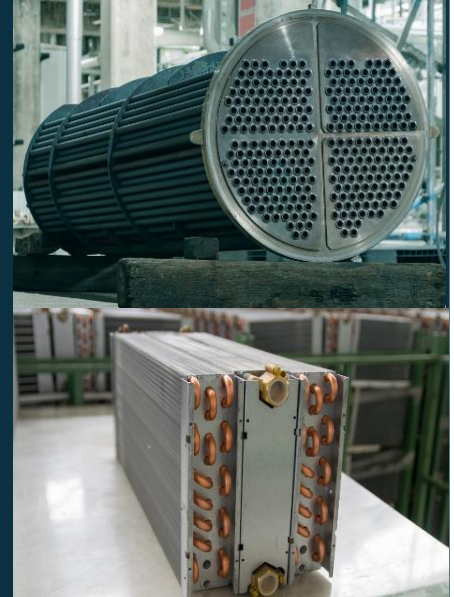
HEAT TRANSFER SCIENCE AND PHYSICS TRAINING COURSES AND STUDIES

The Principles and Practice of Heat Transfer

Ali H. Tarrad

General Objectives of The Offered Courses

- Gain knowledge of heat transfer methods and their applications
- Identify the physical dealing with various applications of heat transfer through matter.
- Performing the necessary thermal calculations to complete the required thermal design of equipment experiencing heat exchange



What Every Engineer Should Know about the Organic Rankine Cycle and Waste Energy Recovery

Ali H. Tarrad

Audience

Students, Technicians, and Engineers in mechanical and energy topics.

Prerequisites

Basic knowledge of mathematics.
Initial thermal knowledge is necessary for courses participants.



The Thermal Equipment Design Courses

- 1- Heat exchangers with and without phase change, including shell and tube, double pipe, air-cooled, and immersion coils.
- 2- Jacketed vessels with and without agitators.
- 3- Equipment and piping system thermal insulation.
- 4- Industrial furnace types and preliminary design calculations.
- 5- Introduction to geothermal energy concept with preliminary ground heat exchanger design.

Objectives

- i. Define the thermal process flow diagram.
- ii. Learn the concept of the thermal process.
- iii. Determine the object of the process.
- iv. Prepare the available thermal data of the process.
- v. Conduct the required thermal calculations.
- vi. Specify the dimensions and fluid flow requirements for the equipment.
- vii. Determine the flow characteristics such as temperature, pressure, and flow rate.
- viii. Determine the pressure losses of the flow and power demand of pumps or blowers.

Thermal Engineering Investigations and Analyses

- ❖ Prepare a thermal engineering analysis of an existing process in an industrial complex such as power plants, paper production, metal production, food industry, etc. as a whole or part of the project.
- ❖ Conduct a thermal study for energy utilization in a factory to determine the optimum and more efficient energy use.
- ❖ Provide thermal solutions to implement proper integration of equipment with other parts of the thermal system on site.

1. Thermal power plant analysis and efficiency.
2. Energy management and Efficient Utilization of Energy in industrial sites.
3. Optimization of efficient waste energy recovery in an industrial complex.
4. Hybrid energy sources utilization in energy recovery sector.

- All the mentioned above is given in English.
- The period of each theme is 4 half days.
- The courses may be given on-site, online or hybrid.

Price:

- 990 € for the online courses.
- The cost and period of the Thermal Engineering Studies are negotiable with the client.



Ali H. Tarrad

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Educational Channel:

<https://www.youtube.com/channel/UCXIKOB0qXQYhxETYrpBuj8g>

