

“SUMMER COURSE ON EXERGY AND ITS APPLICATIONS” (16-17 June 2008)

Description: Recently, exergy has become a new distinct discipline for system design, analysis, optimization and performance evaluation, and its use has expanded drastically. In this regard, exergy analysis appears to be a significant tool in: (a) addressing the impact of energy resource utilization on the environment, (b) furthering the goal of more efficient energy resource utilization, (c) determining locations, types and true magnitudes of wastes and losses, (d) revealing whether or not and how much it is possible to design more efficient energy systems by reducing the inefficiencies, (e) providing a sustainable development as a result of sustainable supply of energy resources, and (f) distinguishing the high-quality and low-quality energy resources. This is a timely course to serve academia and industry to provide further information and encourage people working in the area of energy to conduct exergy analysis for system design, analysis, optimization and performance evaluation in large number of applications ranging from power plants to fuel cells and from renewables to geothermal district heating systems.

PROGRAM

Day 1: 16 June 2008 (Monday)		
Hours	Lecturer	Title
08.30-09.00		Registration
09.00-09.30	Dr. M. Tırıs	Opening Talk
09.30-10.15	Dr. I. Dincer	Exergy vs Energy
10.15-10.45		Coffee break
10.45-11.30	Dr. Y.A. Çengel	Thermodynamic Concepts-I
11.45-12.30	Dr. Y.A. Çengel	Thermodynamic Concepts-II
12.30-14.00		Lunch and Visit to Lab Facilities
14.00-14.45	Dr. I. Dincer	Exergy: A Tool to Combat Global Warming
15.00-15.45	Dr. I.B. Kılıç	Exergy Guided Climate Control Systems in Green Buildings
15.45-16.15		Coffee break
16.15-16.45	Dr. A. Hepbaşlı	Exergy Management: A Way to Sustainable Development
16.45-17.30	Dr. I. B. Kılıç	Low-Exergy HVAC Systems and Applications

Day 2: 17 June 2008 (Tuesday)		
Hours	Lecturer	Title
09.00-09.45	Dr. I. Dincer	Exergy Analyses of Hydrogen and Fuel Cell Systems
09.45-10.30	Dr. I. B. Kılıç	Exergy Benefits of Combining Ground Source Heat Pumps with CHP
10.30-11.00		Coffee break
11.00-11.45	Dr. A. Hepbaşlı	Exergetic Comparison of Various Types of Textile Drying Systems
11.45-12.30	Dr. M. Kanoğlu	Exergy Analysis of Cryogenic Systems
12.30-13.30		Lunch
13.30-14.15	Dr. M. Kanoğlu	Exergy Analysis of Geothermal Power Plants
14.15-15.00	Dr. A. Midilli	Exergetic Role of PEMFCs for Energy Sustainability
15.00-15.30		Coffee break
15.30-16.15	Dr. A. Midilli	Exergetic Performance of Hydrogen Use in Reducing Oil Consumption
16.15-17.00	Dr. T.H. Karakoç	Exergy Analysis of a Turbofan Aircraft Engine: GE-CF6
17.00-17.45	Dr. T.H. Karakoç	Exergoeconomic Analysis of an Aircraft Turbofan Engine
17.45-18.15		PANEL DISCUSSION on Exergy and Education Closure

LECTURERS

Prof. Dr. İbrahim Dincer	University of Ontario Institute of Technology (UOIT), Canada
Prof. Dr. Yunus A. Çengel	University of Nevada, Reno, USA.
Prof. Dr. I. Birol Kılıç	ASHRAE, Distinguished Lecturer, USA
Prof. Dr. Arif Hepbaşlı	Ege University (Mech. Eng. Dept.), Turkey
Prof. Dr. T. Hikmet Karakoç	Anadolu University (Mech. Eng. Dept.), Turkey
Assoc. Prof. Dr. Adnan Midilli	Nigde University (Mech Eng. Dept.), Turkey
Assoc. Prof. Dr. Mehmet Kanoğlu	Gaziantep University (Mech Eng. Dept.), Turkey

Location: TÜBİTAK - Marmara Research Center (MAM), P.K. 21, 41470 Gebze, Kocaeli, Turkey (<http://www.mam.gov.tr>)

Registration fee: 65 YTL for students and public persons (including course notes, lunches and refreshments) and 125 YTL for other participants.

Notes: The deadline for registration is 5 June 2008. Although the course language is Turkish, course notes and presentation documents will be available in English. Please fill in and submit the attached application form for registration.

Organizing Committee: Assoc. Prof. Dr. Mustafa Tırıs, Assoc. Prof. Dr. Fehmi Akgün, E. Alptekin Yağmur, Prof. Dr. İbrahim Dincer and Prof. Dr. Arif Hepbaşlı

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