

MANAGEMENT ENGINEERING (LM54)

(Lecce - Università degli Studi)

Teaching ENERGY MANAGEMENT

GenCod A004627

Owner professor FRANCESCO MICALI

Reference professors for teaching
GIOVANNI MANENTE, FRANCESCO MICALI

Teaching in italian ENERGY MANAGEMENT

Teaching ENERGY MANAGEMENT

SSD code ING-IND/09

Reference course MANAGEMENT ENGINEERING

Course type Laurea Magistrale

Credits 9.0

Teaching hours Ore-Attività-frontale: 81.0

For enrolled in 2022/2023

Taught in 2022/2023

Course year 1

Language INGLESE

Curriculum Percorso comune

Location Lecce

Semester Primo-Semestre

Exam type Orale

Assessment Voto-Finale

Course timetable
<https://easyroom.unisalento.it/Orario>

BRIEF COURSE DESCRIPTION

Energy Audit of complex building, industrial process and Transportation.
Measurement & Verification (M&V) methodology and instrumentation
Tools for measuring electrical consumption by Arduino acquisition system.
Thermodynamics applied to the heating systems of complex buildings
The daily solar radiation and valorisation of the solar power by photovoltaic and thermal systems
Energy production from solar thermal and photovoltaic systems
Economic analysis of energy efficiency solutions

REQUIREMENTS

knowledge in :Thermodynamics - Heat Transfer in Industrial systems - Heat Pumps and Chiller - Electrical systems

COURSE AIMS

Common theme is the endorsement of the energy savings performance contracting (ESPC) delivery method, whereby a third party provides implementation services in ex-change for payment via energy savings. In addition to these regulations, many countries have signed executive orders that furthered energy management as good government business practices; however, only the current ones are relevant. Other federal government activities provide valuable support to the private sector for energy conservation. A few examples show how these efforts are enablers to the energy management industry.
The aim of the course is to make student learning how execute a proper energy audit of complex systems acquiring data, analysing them , propose efficient technological solutions, make a proper economical analyses and business plan on the list of opportunities proposed.

TEACHING METHODOLOGY

Slide and Exercises

ASSESSMENT TYPE

Project and Oral

REFERENCE TEXT BOOKS

Energy Management Handbook (Ninth Edition) - Editors
Stephen A. Roosa - Steve Doty - Wayne C. turner

Termodinamica e trasmissione del calore - Yunus A. Cengel - Editore McGraw-Hill