

MODULE INFORMATION SHEET

Name of Module Unit	Energy Audit of Buildings and Industry
Name in polish language	Auditing Energetyczny w Budownictwie i Przemysle
Module type	elective
Form of studying	full-time day courses
Level of study	graduate course (M.Sc. level)
Type of study (for extra-mural courses)	-
Programme	Environmental Engineering
Speciality	Environment Protection Engineering
Responsible department	Heating and Gas Systems Department
Responsible person	Dr inż. Jerzy Kwiatkowski

Semester	Lectures	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
3	15				30	3

Learning outcomes (knowledge, skills, competences)

The aim of the lectures is to introduce an issues of energy consumption efficiency in the municipal sector. The lectures present legislation on energy conservation from European directives to national legislation. The ways to reduce heat energy consumption in buildings are also given.

Prerequisites

Thermodynamics, Economics and law in environmental eng., Energy systems and environment

Rules of integrated grade setting

Arithmetic average of the test from lectures and guided project

Recommended readings

Turner "Energy Management Handbook"
 Thurmann, Menta "Handbook of Energy Engineering"
 Schueman "The Residential Energy Audit Manual"

Contents of lectures (syllabus)

	Topics	Time (hrs.)	Scope (S / Ex)
1	Energy use and energy saving in Poland and in World; Energy Consulting	2	Ex
2	Economic analysis of investment effectiveness	2	Ex
3	Thermal protection of buildings and thermomodernization	4	Ex
4	Law and regulation of thermomodernisation investments supporting	2	Ex
5	Performance Measurement and Verification Protocol	2	Ex
6	Water and electricity savings in buildings	2	Ex
7	Test	1	S
Total		15	hours

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

Lecturers

Dr inż. Jerzy Kwiatkowski

Assessment method

Over 50% of the points in the multiple-choice test

Contents of guided projects

	Topics	Time (hrs.)	Scope (S / Ex)
1	Students carry out the development - a trial audit on the basis of the available data and individual figures. In particular, analyze profitability and perform a final report by the pattern discussed in lectures	26	Ex
2	Oral examination of project	4	S
Total		30	hours

S – topics listed in the legal study programme standards from 12.07.2007

Ex – extended topics

Persons responsible for guided projects

Dr inż. Jerzy Kwiatkowski

Assessment method for guided projects

The presence of the exercises, test audit execution and oral examination