MODULE INFORMATION SHEET

Name of Module Unit	Building Heating Systems
Name in Polish language	Instalacje cieplne w budynku
Module type	compulsory / elective
Form of studying	full-time day courses
Level of study	undergraduate course (B.Sc. level)
Type of study (for extra-mural	-
courses)	
Programme	Environmental Engineering
Speciality	Environmental Engineering
Responsible department	Department of Air Conditionnig and Heating
Responsible person	dr inż. Michał Strzeszewski

Semester	Lectures (E)	Tutorials	Laboratory	Computer Exercises	Projects	ECTS
6	30				15	4

Objectives (summary)

This course will consist of an introduction or review of heat transfer issues, building heat load calculations and code requirements for heating systems, as well as designing simple heating systems.

Prerequisites

Physics, Thermodynamics, Heat Transfer, Fluid Mechanics, Civil Engineering and Constructions.

Rules of integrated grade setting

Arithmetic average of the grades from lectures and guided project.

Recommended reading

Siegenthaler J.: Modern Hydronic Heating. Delmar Publishers. 1995.

Petitjean R.: *Total Hydronic Balancing. A Handbook for Design and Troubleshooting of Hydronic HVAC Systems*, Tour & Andersson Hydronics AB, Valve Division, Ljung, Sweden, 1994.

Contents of lectures (syllabus)

	Topics	Time	Scope
		(hrs.)	(S / Ex)
1	Review of heat transfer issues	4	
2	Calculation methods of heat transfer coefficients of building	4	
	components		
3	Building heat load calculations	8	
4	Code requirements for heating systems in Poland	2	
5	Design of simple heating systems	10	
5	Theoretical test	2	
	Total	30	hours

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

Lecturers

dr inż. Michał Strzeszewski

Assessment method

Theoretical test.

Contents of guided projects

	Topics	Time	Scope
		(hrs.)	(S / Ex)
1	Review of heat transfer issues	3	
2	Practical calculations of heat transfer coefficients of building	3	
	components		
3	Practical building heat load calculations	4	
4	Design of simple heating systems	4	
5	Computational test	1	
	Total	15	hours

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

Persons responsible for guided projects

dr inż. Michał Strzeszewski

Assessment method for guided projects

Computational test and design assessment.