

Title Heating	Code 1010101241010130345
Field Environmental Engineering First-cycle Studies	Year / Semester 2 / 4
Specialty -	Course core
Hours Lectures: 3 Classes: 1 Laboratory: - Projects / seminars: 2	Number of credits 6
	Language polish

Lecturer:

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Faculty:

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Status of the course in the study program:

Core course.

Assumptions and objectives of the course:

Knowledge of theoretical basics of heating systems? design.

Contents of the course (course description):

Thermal parameters of internal environment. Thermal comfort. External climate factors and their influence on the thermal balance of building. Heat and moisture calculations for buildings? walls. Thermal protection of buildings. Thermal balance of buildings in design conditions and in heating season. Design heat load. Calculation of energy use for space heating. Objectives and classification of the heating systems. Heat sources. General rules of boilers selection and requirements for boiler rooms. Chimneys. Water heating systems and rules of their calculating. Thermal characteristics of heaters and their selection. Hot water heatings? protection. Piping and heat insulations used in heatings.

Introductory courses and the required pre-knowledge:

Fluid Mechanics. Heat Engineering I.

Courses form and teaching methods:

Lecture with transparent projector. Calculation exercises. Design exercises concerning heating systems.

Form and terms of complete the course - requirements and assessment methods:

Design, written tests, exam.

Basic Bibliography:

1. Koczyk H. i inni: Ogrzewnictwo praktyczne. Projektowanie. Montaż. Eksploatacja. Systherm Serwis. Poznań 2005
2. Recknagel, Sprenger, Hönnmann, Schramek.: OGRZEWNICTWO, KLIMATYZACJA, CIEPŁA WODA, CHŁODNICTWO 08/09 OMNI SCALA Wrocław 2008
3. Mizielińska K., Olszak J. Gazowe i olejowe źródła ciepła małej mocy. Oficyna Wydawnicza Politechniki Warszawskiej Warszawa 2005

Additional Bibliography:

