STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer aided design of technological and refrigeration systems**	Code **1010611251010615311**

Field of study **Transport**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 5**

Elective path/specialty **Food Transport**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**

Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **full-time**

No. of hours Lecture: **1** Classes: **-** Laboratory: **1** Project/seminars: **-**	No. of credits **3**

Status of the course in the study program (Basic, major, other) **(brak)**	(university-wide, from another field) **(brak)**

Education areas and fields of science and art	ECTS distribution (number and %**)**

Responsible for subject / lecturer:	Responsible for subject / lecturer:
dr inż. Przemysław Tyczewski email: przemyslaw.tyczewski@put.poznan.pl tel. 6652655 MRiT ul. Piotrowo 3, 60-695 Poznań	dr inż. Arkadiusz Stachowiak email: arkadiusz.stachowiak@put.poznan.pl tel. 6652655 MRiT ul. Piotrowo 3, 60-695 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Knowledge of technical drawing and numerical methods as carried out in the course of their studies. Knowledge of technical drawings and numerical methods on required area of expertise.
2	**Skills**	Student can: prepare a scheme of arrangement, choose right components and perform basic calculations using provided calculation procedure.
3	**Social competencies**	Student understands the need for continuous learning.

Assumptions and objectives of the course:

Using AutoCAD as aided tool to create technical documentation. Formation the ability to create computer tools to aid design calculations.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Student knows basic features and functions of AutoCAD and drawing and modyfication tools. - [K1A_W12]

2. Student knows how to create basic Delphi code. - [K1A_W12]

Skills:

1. Student can use Delphi to create computer-aided design tools. - [K1A_U13 K1A_U14]

2. Student can create computer program to solve given problem. - [K1A_U13 K1A_U14]

Social competencies:

1. Student is able to think and act creatively. - [K1A_K05]

Assessment methods of study outcomes

Examination based on an ongoing review of the Students preparation.

Course description

Knowledge of basic features and functions of AutoCAD. Drawing and modyfication tools. Working with functions: hatching, filling. Tools to support the dimensioning. Practice of Delphi programming ? creating computer-aided design tools. Features of the Delphi (types of components). Creating basic Delphi code. Use complex instructions in Delphi . Creating computer program based on sample calculation algorithm.

Basic bibliography:

1. Pikoń A., AutoCad 2007 PL. Helion, Warszawa, 2007.

2. Reisdorph K., Delphi 6 dla każdego. Helion, Warszawa, 2001.

3. Tor A., Excel 2002/XP. Visual Basic. TORTECH, Warszawa 2004.

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Participation in lecture	15
2. Consolidation on lecture	6
3. Consultations	8
4. Participation in laboratories	15
5. Consolidation of laboratories/Raport	6
6. Exam preparedness	8
7. Participation in the exam	8

Student's workload

Source of workload	hours	ECTS
Total workload	66	3
Contact hours	46	2
Practical activities	33	1