



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

CMachine Science of the Food Industry

### Course

Field of study

Construction and Exploitation of Means of Transport

Area of study (specialization)

Food Industry Machines and Refrigeration

Level of study

First-cycle studies

Form of study

part-time

Year/Semester

3/5

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

9

Laboratory classes

18

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

dr hab. inż. Przemysław Tyczewski

Responsible for the course/lecturer:

dr inż. Karolina Perz

Faculty of Civil and Transport Engineering

Faculty of Civil and Transport Engineering

### Prerequisites

Knowledge: Has basic knowledge of mechanics, basics of machine design, machine construction, theory of mechanisms, thermodynamics.

Skills: Can draw a machine diagram. He can perform basic calculations of basic elements and assemblies of machines, including shafts, bearings, clutches, brakes and gears.

Social competences: Is aware of responsibility for their own work.

### Course objective

Getting to know basic machines and apparatuses working in the food industry.

### Course-related learning outcomes

Knowledge

Has basic knowledge of the basics of machine design and the theory of machines and mechanisms, including mechanical vibrations, has extended basic knowledge necessary to understand specialized subjects and specialist knowledge of the construction, methods of construction, production and



operation of a selected group of working machines covered by the WILiT specialization profile especially food machinery.

#### Skills

He can search in catalogs and on manufacturers' websites ready-made machine components to be used in his own projects.

#### Social competences

Is willing to think and act in an entrepreneurial manner.

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Exam and current control of preparation for laboratory exercises and assessment of their course.

#### Programme content

Systematics of machines and apparatus for the processing of agricultural and food products in the field of mechanical, thermal-diffusion and packaging operations. Purpose, application of machines and devices, construction (basic working components), principles of operation, diagrams, technical characteristics.

#### Teaching methods

Lecture with a multimedia presentation. Laboratory exercises.

#### Bibliography

##### Basic

1. Inżynieria procesowa i aparatura przemysłu spożywczego, pod red. P. Lewickiego, WNT, Warszawa 2005
2. Wybrane zagadnienia z ogólnej technologii żywności, pod redakcją A. Jarczyka
3. Technologia żywności cz. 1. Podstawy technologii żywności
4. Pijanowski E., Dłużewski M., Dłużewska A., Jarczyk A., Ogólna technologia żywności, WNT, Warszawa 2004
5. Aparatura i urządzenia przemysłu chemicznego
6. Knyszewski J. Maszyny i urządzenia przemysłu żywnościowego. Wydawnictwo Politechniki Gdańskiej Gdańsk 2003
7. Kaleta A., Wojdalski J., Przetwórstwo rolno - spożywcze. Wybrane zagadnienia inżyniersko - produkcyjne i energetyczne. Wydawnictwo SGGW Warszawa 2007

##### Additional

1. Lewicki P. Inżynieria procesowa i aparatura przemysłu spożywczego. Warszawa 1990



2. Glaser R., Materiały do wykładów i ćwiczeń z maszynoznawstwa i aparatury przemysłu spożywczego i chemicznego część 2 Wydawnictwo Akademii Ekonomicznej Wrocław 2003.
3. Szczepański R, Budny J., Pracownia maszynoznawstwa przemysłu spożywczego. Wydawnictwo UWM Olsztyn 2006.
4. Lewicki P., Witrowa-Rajchert D., Inżynieria i aparatura przemysłu spożywczego. część 2, Ćwiczenia obliczeniowe. Wydawnictwo SGGW, Warszawa 2002

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	25	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	50	1,0

<sup>1</sup> delete or add other activities as appropriate