



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Metalic foams - technology, properties and application

### Course

Field of study

Year/Semester

Education in Technology and Informatics

3/6

Area of study (specialization)

Profile of study

general academic

Level of study

Course offered in

First-cycle studies

Polish

Form of study

Requirements

full-time

elective

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

30

Tutorials

Projects/seminars

### Number of credit points

3

### Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr inż. Grzegorz Adamek

Wydział Inżynierii Materiałowej i Fizyki

Technicznej

Piotrowo 3, 60-965 Poznań

### Prerequisites

Basic knowledge of materials science.

The ability to solve simple material problems based on the acquired knowledge, the ability to obtain information from indicated sources.

Understanding the need to expand your competences.

### Course objective

Provide students with knowledge about metallic foams, production technologies, properties and application

### Course-related learning outcomes

Knowledge

As a result of the conducted classes, the student:



1. has ordered and theoretically founded general knowledge of the structure and functions of nano- and microworld objects [K1\_W11]
2. has detailed knowledge related to selected issues of analysis of the properties of functional materials and processes in the nano scale [K1\_W12]

#### Skills

As a result of the course, the student should demonstrate skills in the following areas (the student will be able to):

1. can select materials with appropriate physicochemical and design properties for laboratory and engineering applications [K1\_U18]
2. is able to obtain information from literature, databases and other sources, interpret them and draw conclusions, formulate and justify opinions [K1\_U02]

#### Social competences

As a result of the course, the student will acquire the competences listed below. Completing the course means that:

1. can work independently and in a team on a given task, shows responsibility in this work [K1\_K01].

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

Learning outcomes presented above are verified as follows:

Lecture: Credit based on a discussion conducted during classes, students' activity in discussions and solving tasks in a group

#### Programme content

Metallic foams in biomaterial applications as well as a construction material, sandwich systems, technologies for the production of metallic foams, blowing agents, sintering, open / closed porosity,

#### Teaching methods

Lecture: multimedia presentation, illustrated with examples given on the board.

#### Bibliography

##### Basic

1. JCR publications provided by the teacher during the class

##### Additional

1. JCR publications provided by the teacher during the class



### Breakdown of average student's workload

	Hours	ECTS
Total workload	70	3,0
Classes requiring direct contact with the teacher	34	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	36	2,0

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