



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Sanitary engineering from ancient times to modern times [N2IŚrod2-ZwWOWiG>IS]

### Course

Field of study	Year/Semester
Environmental Engineering	1/2
Area of study (specialization)	Profile of study
Water Supply, Water and Soil Protection	general academic
Level of study	Course offered in
second-cycle	Polish
Form of study	Requirements
part-time	compulsory

### Number of hours

Lecture	Laboratory classes	Other (e.g. online)
10	0	0
Tutorials	Projects/seminars	
0	0	

### Number of credit points

1,00

### Coordinators

dr hab. inż. Zbysław Dymaczewski prof. PP  
zbyslaw.dymaczewski@put.poznan.pl

### Lecturers

### Prerequisites

General historical knowledge obtained in previous education levels and basic knowledge of water supply, sewerage, water treatment and wastewater treatment obtained at the first-cycle studies

### Course objective

To familiarize students with the knowledge on how water supply and sewage disposal as well as wastewater treatment has changed over the centuries, and how modern sanitary engineering has evolved.

### Course-related learning outcomes

Knowledge:

Getting to know the achievements of civilization in the field of water supply and sewage systems in ancient civilizations, the Middle Ages and modern times.

Skills:

The student can discuss topics related to the formation and development of water supply and sewerage systems from ancient times to modern times.

Social competences:

Awareness of continuous improvement and deepening of one's competences

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Written test with open and closed questions

### Programme content

Water supply and sewage disposal through centuries - since ancient times up to modern times.  
Development of sanitary engineering and environmental engineering.

### Course topics

Water supply and sewage disposal in ancient civilizations.

Water supply and sewage disposal in the Middle Ages.

The beginnings of modern water supply and sewage systems.

The concept of public health, sanitary engineering and environmental engineering.

Development of modern water and wastewater treatment systems.

Sustainable development, actions for saving the planet Earth, protection of air quality.

### Teaching methods

Lecture, multimedia presentation

### Bibliography

Basic:

Wodociągi i kanalizacja w Polsce - tradycja i współczesność. red. nauk. M.M.Szozański, wyd. Polska Fundacja Ochrony Zasobów Wody, Poznań-Bydgoszcz, 2002.

Additional:

Jenkins D., Wanner J., Activated sludge - 100 years and counting, IWA Publishing, Londyn 2014.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	25	1,00
Classes requiring direct contact with the teacher	10	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	15	0,50