Course title: **Microbiology**					
	Specialty	**Semester**	**Number of ECTS**	**Number of hours in the class**	**Form**
	Foreign students	**winter**	**3**	**30**	**Lab class**

Name of lecturer: Prof. Dr. hab. Piotr Skowron

Objective of the course (expected learning outcomes and competences to be acquired)

- Introduction of students to all topics, specified in the laboratory practical courses list
- Introduction of students to the methods of microorganisms cultivations
- Introduction of students to the methods of microorganisms identifications
- Introduction of students to the methods of microorganisms features determinations
- Training in aseptical work skills and following guidelines of work with microorganisms
- Training in skills of individual and independent planning and conducting of microbiological experiments

Prerequisites: none

Teaching methods: Laboratory experiments Analysis of the experiments results and discussion

Course contents

Basic techniques used in microbiological laboratory (types of sterilizations, methods of bacterial inoculation, spreading, cultivation). Effect of physical (temperature, osmotic pressure, UV) and chemical factors on microorganisms. Morphology of microorganisms - preparation of stained microscopic slides and observation, physiological and pathogenic human bacterial flora, chemiotherapeutics and determination of sensitivity to antymicrobial drugs, physiology and metabolism of microorganisms. Collecting environmental samples and isolation of microorganisms, application of microorganisms in an industrial processes and environment protection.

Recommended reading: A. Primary literature:

- Tortora, G.J., Funke, B.R., Case, C.L. Microbiology. An introduction. Pearson International Edition, San Francisco 2007

Assessment methods: Mid-term tests**,** End-term test

Language of instruction: English