

Course title:	Essentials of Practical Microbiology
Institute/Speciality:	FACULTY OF CHEMICAL ENGINEERING AND TECHNOLOGY
Number of contacthours:	15 hours (8 hours lectures + 7 hours practical classes)
Course duration:	1 semester
ETCS credits:	
Course description:	<p>The aim of those theoretical and practical classes will be to get to know and understand microorganisms and their role in the environment and human surrounding. Students will gain more information about organization of the microbial cells and physiological processes which take place in these living organisms. Moreover, participants will understand how to work safety in the lab and prepare microbiological material/slides and be able to observe them using the light microscope. Students will gain practical preparation in the culture of bacteria and fungus. The course will also provide understanding of aseptic technique and possibilities of apply factors to control grow and proliferation of microorganisms. The last part of the course will be showing participants a positive and negative role of the microorganism in the human surrounding (e.g. impact for human health and causing illnesses) and environment (e.g. apply of microorganisms to produce the goods and the spoilage of the products).</p> <p>Lectures content: introduction to microbiology, aseptic technique and safety, Good Laboratory Practice (GLP), media, sterilization and disinfection, inoculation and other microbiological procedures in daily work, dealing with bacteria and yeast (streak plate, pour plate, spread plate methods), inoculation of fungus, pure culture, maintaining stock cultures, preparation “smear” of bacteria or yeast on a microscope slide, microscope technique (light microscope), definition of “good bacteria”, probiotic, dairy and pickled products, sepsis.</p>
Literature:	<p>[1] Black J. G., <i>Microbiology: Principles and Explorations</i>, (2005), John Willey&Sons.</p> <p>[2] <u>Willey J.</u>, Sherwood L., Woolverton Ch. J., <i>Prescott's Microbiology</i>, (2017), McGraw Hill.</p> <p>[3] <u>Tortora G.</u>, <u>Funke B.</u>, <u>Case C.</u>, <i>Microbiology: An Introduction</i>, (2018), Pearson.</p> <p>[4] <u>Saravanan R.</u>, <u>Dhachinamoorthi D.</u>, <u>Prasada Rao Ch. M.</u>, (2019), <i>A Handbook of Practical Microbiology</i>, Publisher Lambert Academic Publishing.</p>
Assessment method:	Final test
Prerequisites:	Student should have basic knowledge of biology
Primary target group:	specialties students in Biology or Biotechnology
Lecturer:	dr Katarzyna Jekiel
Contact person:	dr Katarzyna Jekiel (katarzyna.jekiel@pk.edu.pl)
Deadline for application:	
Remarks:	The course is selectable