


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


| | | | |
|--|-----------------------|---|---------------------------|
| Course title | | ECTS code | |
| Microbiology | | 7.2.0492 | |
| Name of unit administrating study | | | |
| Faculty of Biology | | | |
| Studies | | | |
| faculty | field of study | type | pierwszego stopnia |
| Wydział Chemii | Ochrona środowiska | form | stacjonarne |
| | | specjalty | wszystkie |
| | | specialization | wszystkie |
| Teaching staff | | | |
| dr hab. Marian Sęktas; prof. dr hab. Agnieszka Szalewska-Pałasz; dr Sylwia Barańska | | | |
| Forms of classes, the realization and number of hours | | ECTS credits | |
| Forms of classes | | 6 | |
| Laboratory classes, Lecture | | classes - 60 h | |
| The realization of activities | | tutorial classes - 15 h | |
| classroom instruction | | Student's own work - 75 h | |
| Number of hours | | TOTAL: 150 h - 6 ECTS | |
| Lecture: 30 hours, Laboratory classes: 30 hours | | | |
| The academic cycle | | | |
| 2023/2024 winter semester | | | |
| Type of course | | Language of instruction | |
| obligatory | | polish | |
| Teaching methods | | Form and method of assessment and basic criteria for evaluation or examination requirements | |
| <ul style="list-style-type: none"> - conducting experiments - multimedia-based lecture | | Final evaluation | |
| | | <ul style="list-style-type: none"> - Graded credit - Examination | |
| | | Assessment methods | |
| | | <ul style="list-style-type: none"> - (mid-term / end-term) test - written exam (test) - Assessment methods | |
| | | written test exam | |
| | | lecture: first date - written test with closed questions, | |
| | | correction date - written test or oral test | |
| | | Exercises: written credit for part of material (opening tests): | |
| | | final grade based on average of partial grades | |
| | | The basic criteria for evaluation | |
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| | | The exam includes material from lectures and exercises | |
| | | The written exam is assessed according to the percentage rate (University of Gdansk Studies Regulations) | |
| | | Oral exam - the grade covers the presented degree of completeness of substantive knowledge for the question/issue | |
| | | Admissions - the grade includes the degree of mastery of the material from the previous exercise | |
| Method of verifying required learning outcomes | | | |
| Required courses and introductory requirements | | | |
| A. Formal requirements | | | |

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|--|--------------------------|
| Formal requirements Basic biology B. Prerequisites Prerequisites Knowledge of basic concepts in general biology | |
| Aims of education | |
| Aims of education 1.Introduction of basic concepts in the field of microbiology. 2. Understanding the structure of the bacterial cell and knowledge of its basics. 3. Understanding the role of microbes in maintaining the biological balance of the environment. 4. Mechanisms of bacterial pathogenesis and understanding of the fundamental importance of genetic recombination | |
| Course contents | |
| Course contents A. Problems of the lecture Lecture issues: introduction to microbiology and bacterial cell structure, cell shields and virulence factors in bacteria, bacterial metabolism, methods of obtaining matter and energy, replication of genetic material and para-sexual processes (recombination, transformation, conjugation), identification of bacteria and the basis of bacterial systematics, viruses bacterial, antibacterial factors and their mechanisms of action, mechanisms of bacterial resistance to antibiotics and chemotherapeutics, physiological and pathogenic flora in humans, soil and water flora, the contribution of microorganisms in biodegradation and circulation of elements, the use of genetically modified bacteria. Laboratory issues: culture media, bacterial colony characterization, cell staining and observation, knowledge of bacterial structure and knowledge of its basic physiological processes, knowledge of bacterial pathogens, knowledge of the basics of microbial identification, isolation skills and methods of culturing microorganisms from various environments, transformation and transduction of cells | |
| Bibliography of literature | |
| Bibliography of literature A. Literature required to pass the course A.2. Literature for individual studies: Kunicki-Goldfinger "Życie bakterii" (red. J. Baj., Z. Markiewicz), PWN, Warszawa 2005; "Biologia molekularna bakterii" (red. J. Baj, Z. Markiewicz), PWN, Warszawa 2007 Extracurricular readings prezentacja multimedialna wykładów (program PowerPoint) Jawetz E., Melnick J., Adelberg E., "Przegląd mikrobiologii lekarskiej", PZWL, Waszawa 1991; Kotełko K., Sedlaczek L., Lachowicz T.M., " Biologia bakterii", PWN, Warszawa 1984 | |
| The learning outcomes (for the field of study and specialization) | Knowledge |
| | Skills |
| | Social competence |
| Contact | |
| sektas@biotech.ug.edu.pl | |