

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Biology and Biochemistry		Code 1010102211010132025
Field of study Environmental Engineering Second-cycle	Profile of study (general academic, practical) (brak)	Year /Semester 1 / 1
Elective path/specialty Water Supply, Water and Soil Protection	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 1 Classes: - Laboratory: 2 Project/seminars: -		No. of credits 3
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 3 100%
Responsible for subject / lecturer: dr Michał Michałkiewicz email: Michal.Michalkiewicz@put.poznan.pl tel. 61 665 24 16 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Basic knowledge of the biology.
2	Skills	The ability to use literature and self-education, making observations, drawing conclusions, working in a group.
3	Social competencies	Is aware of the need to learn, able to work in a group.
Assumptions and objectives of the course: -Knowledge of selected biological and biochemical processes used in water, wastewater and waste technology.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
Skills:		
Social competencies:		
Assessment methods of study outcomes		
-Final test, exercise reports.		
Course description		
-Building and features of enzymes, enzyme activity, classification of enzymes. Metabolism, biocatalysis and kinetics of enzyme reactions. Circulation of bioelements in surface water. Structure and system performance of river and lake ecosystems. Water classification system. Ion balance. Biodegradation of organic compounds in biological wastewater treatment plants.		

Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
Student's workload		
Source of workload	hours	ECTS
Total workload	101	3
Contact hours	51	0
Practical activities	30	0