

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Software engineering		Code 1010331561010330109
Field of study Information Engineering	Profile of study (general academic, practical) (brak)	Year /Semester 3 / 6
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: - Laboratory: - Project/seminars: 15		No. of credits 4
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 Technical sciences		ECTS distribution (number and %) 4 100% 4 100%
Responsible for subject / lecturer: dr inż. Andrzej Sikorski email: andrzej.sikorski@put.poznan.pl tel. 6653958 Wydział Elektryczny ul. Piotrowo 3A 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	Knowledge of Visual Paradigm. computer science fundamentals with emphasize on OOP, fundamental algorithms (e.g. as given in AOCP vol.1) Model relacyjny.
2	Skills	Software engineering as covered in previous semester (class, use case and requirements diagrams) Proficiency in C,C++,C# or java. Podstawy baz danych. data base basics.
3	Social competencies	Ability to work in a team. Trustworthiness, loyalty and discretion.
Assumptions and objectives of the course: Knowledge of OOP and advanced programming & modeling techniques. The impact of modeling on software quality. Proficiency in UML modeling. The main objective is to provide necessary knowledge and to support student project and lab work.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Knowledge of Software Engineering and CASE tools (ie. Visual Paradigm) - [K_W12] 2. Knowledge of latest tools, technologies and trends within IT industry. - [K_W19]		
Skills:		
1. Knowledge aquisition from API, tools and software framework documentation. - [K_U16] 2. Ability to map the requirement to the functionality and strucutre offered by software tools. - [K_U03]		
Social competencies:		
1. Reliability and dependability. Understanding of the software modeling importance. - [K_K07] 2. Responsibility for the work results. - [K_K04]		

Assessment methods of study outcomes		
Examination. UML and coding assignments. Seminary or mid-term exam. Challenges offered by the lecturer. Solution of technical problems presented within the lecture.		
Course description		
Dynamic UML diagrams: state, timing, interaction, sequence and activity. Concurrent programming design patterns. UML specification of high level synchronization objects. Real time system modeling. Relational design and modeling. Relational modeling. Relational division, semi anti-join, SQL query re-writing.		
Basic bibliography:		
Additional bibliography:		
Result of average student's workload		
Activity	Time (working hours)	
1. Lecture	30	
2. Individual activity	20	
3. Project labs	15	
Student's workload		
Source of workload	hours	ECTS
Total workload	65	4
Contact hours	45	3
Practical activities	15	1