WSB University						
Field of study:						
Course: Software Engineering						
Educational profile: *practical*						
Education level: I-cycle studies						
Number of hours per semester	1		2		3	
	I	II	III	IV	V	VI
Full -time studies (L/C/lab/pr/e)*						
Part-time studies (L/C/lab/pr/e)						
CLASS LANGUAGE	English					
LECTURER	Rafał Deja					
FORM	Exercises					
COURSE OBJECTIVES	The course aims to practically prepare students to develop software using a methodical, engineering approach aligned with industry best practices.					

Reference to learning outcomes		**Description of learning outcomes**	**Verification of learning outcomes**
Field-related learning outcome	**PQF**		
Knowledge			
INF_W04	P6S_WG	The student knows and understands the engineering approach to software development.	Completion of tasks; submission of project documentation
INF_W10	P6S_WG	The student knows and understands techniques and tools related to software analysis and design, as well as IT project management.	Completion of tasks; submission of project documentation
Skills			
INF_U10	P6S_UW	The student can define project goals, decompose them and develop an implementation plan.	Completion of tasks; submission of project documentation
INF_U01, INF_U10, INF_U15	P6S_UW	The student can collect and analyse requirements, prepare a requirements specification and design an IT system using UML diagrams.	Completion of tasks; submission of project documentation
INF_U6	P6S_UW	The student can prepare the required documentation for the developed software product.	Completion of tasks; submission of project documentation
INF_U01, INF_U02	P6S_UW	The student can independently acquire the knowledge and skills necessary to complete a project task.	Completion of tasks; submission of project documentation
Social competences			

INF_K03, INF_K04	P6S_KO	The student can work in a team.	Completion of tasks; submission of project documentation

Students' own workload (in didactic hours 1h=45 minutes)**	
Full- time Participation in lectures = Participation in classes = Preparation to classes = Preparation to lectures = Preparation to an examination = Project tasks = e-learning = Credit/examination = others (indicate which) = **TOTAL:** **ECTS points:** **Including practical classes:**	**Part-time** Participation in lectures = Participation in classes = Preparation to classes = Preparation to lectures = Preparation to an examination = Project tasks = e-learning = Credit/examination = others (indicate which) = **TOTAL:** **ECTS points:** **Including practical classes:**

PREREQUISITES	Knowledge of object-oriented programming fundamentals. Software Engineering course — lecture.
COURSE CONTENT (Division into contact hours and e-learning)	Execution of exercises aimed at learning a methodical and engineering approach to building complex IT systems: **Contact hours:** • Prepare a business analysis of a selected problem using BPMN notation (4h). • Requirements analysis – use case diagram. Transform a loosely described IT system into a structured requirements specification (use cases, user stories) (4h). • Version control system – creating and using a local and online repository (2h). • Prepare a project plan using MS Project; risk management (2h). **E-learning:** • Design a solution using selected UML diagrams (4h). • Software quality control; creating unit tests (4h).
LITERATURE (compulsory reading)	I. Somerville – Software Engineering, WNT 2003. Craig Larman – Applying UML and Patterns. Object-Oriented Analysis and Design and the Iterative Development. 3rd edition, Helion 2011.
OPTIONAL LITERATURE (including at least two items in English, either books or articles)	Martin Fowler – UML Distilled: A Brief Guide to the Standard Object Modeling Language. https://www.computer.org/education/bodies-of-knowledge/software-engineering/v4 A. Jaszkiewicz – Inżynieria oprogramowania, Helion 1997/2000. R. Pressman – Inżynieria oprogramowania, WNT 2004.
SCHOLARLY PUBLICATIONS BY PERSONS WHO CONDUCT	

CLASSES, WHICH ARE RELATED TO THE MODULE SUBJECT	
TEACHING METHODS (Division into contact hours and e-learning)	Independent completion of tasks using the proposed tools. **Contact hours:** **E-learning:**
TEACHING AIDS	
PROJECT (if implemented in the framework of a classes module)	Project goal: Topic of the project: Project form:
FORM AND CONDITIONS OF ASSESSMENT (Division into contact hours and e-learning)	Assessment of tasks completed in teams. The solution description should be provided in the form of documentation.

** L-lecture, C- classes lab- laboratory, pro- project, e- e-learning*