

(pieczęć wydziału)

COURSE DESCRIPTION

Z1-PU7

WYDANIE N1

Strona 1 z 3

1. Course title: SOFTWARE ENGINEERING		2. Course code: IOP		
3. Validity of course description: 2018/2019				
4. Level of studies: 1st cycle of higher education				
5. Mode of studies: intramural studies				
6. Field of studies: INFORMATICS				
7. Profile of studies: general academic				
8. Specialty: -				
9. Semester: IV				
10. Faculty teaching the course: Faculty of Automatic Control, Electronics, and Computer Science				
11. Course instructor: dr hab. inż. Michał Kawulok				
12. Course classification: common courses				
13. Course status: obligatory				
14. Language of instruction: English				
15. Prerequisite qualification: Fundamentals of Computer Programming, Computer programming				
16. Course objectives: The aim of the module is to present the most relevant aspects of software engineering with particular attention given to designing the information systems and running IT projects following commonly adopted methodologies and exploiting contemporary tools.				
17. Description of learning outcomes:				
No.	learning outcomes description	method of assessment	teaching methods	learning outcomes reference codes
1	General knowledge concerned with software engineering	written exam	lecture	K1A_W11, K1A_W15
2	Modeling the information systems	project task	project	K1A_U19, K1A_U29
3	Software design	project task	project	K1A_U29
4	Exploiting the group work tools	project task	project	K1A_U21
5	Software testing and optimization	laboratory task	laboratory	K1A_U15
18. Teaching modes and hours lecture: 30 laboratory: 15 project: 30				
19. Syllabus description: <u>Lectures:</u> Introduction to software engineering. Object-oriented analysis. Basics of modeling using the UML language. Design patterns. Methodology of project management and software development. Software life				

cycles. Building a team. Running research and development projects. Risk analysis. Software quality management. Tools exploited in software development.

Laboratory exercises:

Code optimization. Verification and validation. Design patterns.

Project:

1. Engineering the requirements
2. Modeling the project dictionary
3. Modeling use case diagrams
4. Implementing the selected use cases
5. Code design and generation
6. Implementation and compilation

20. Written exam: no

21. Primary sources:

1. I. Sommerville: "Inżynieria Oprogramowania", WNT 2003
2. K. Sacha: "Inżynieria oprogramowania", Wydawnictwo Naukowe PWN, Warszawa, 2010
3. S. Wrycza, B. Marcinkowski, K. Wyrzykowski: „Język UML 2.0 w modelowaniu systemów informatycznych”, Helion, Gliwice, 2006.
4. W. Dąbrowski, A. Stasiak, M. Wolski: „Modelowanie systemów informatycznych w języku UML 2.1”, PWN , Warszawa 2009.
5. G. Booch, J. Rumbaugh, I. Jacobson: “UML. Przewodnik użytkownika”, WNT, Warszawa, 2001, 2002
6. P. Szmaj (red.): "Inżynieria programowania. Metody i ćwiczenia laboratoryjne", Wydawnictwo Politechniki Śląskiej, Gliwice, 2003

22. Secondary sources:

1. R.S. Pressman, “Praktyczne podejście do inżynierii oprogramowania”, WNT 2004
2. A.Hunt, D.Thomas, „Pragmatyczny programista, od czeladnika do mistrza”, WNT, 2002
3. J. Górski (red.): „Inżynieria oprogramowania w projekcie informatycznym”, wyd. II rozszerzone. Mikom, Warszawa 2000
4. A. Jaszkiwicz: "Inżynieria oprogramowania", Helion, 1997
5. G. Schneider, J. Winters, „Stosowanie przypadków użycia”, WNT 2004

23. Total workload required to achieve learning outcomes

No.	teaching mode	contact hours / student workload hours
1	lecture	30 / 30
2	classes	/
3	laboratory	15 / 15
4	project	30 / 30
5	BA/MA seminar	- / -
6	other (exam)	- / -
	total number of hours	75 / 75

24. Total hours: 150

25. Number of ECTS credits: ¹ 3 (sem.IV), 2 (sem.V)
26. Number of ECTS credits for contact hours: 3
27. Number of ECTS credits for in-practice hours (laboratory, classes, project): 2
26. Comments: -

approved:

.....
(date, instructor's signature)

.....
 (date, signature of the Director of the Faculty Unit)