

(faculty stamp)

**COURSE DESCRIPTION**

Z1-PU7

WYDANIE N1

Strona 1 z 2

<b>1. Course title : DEVELOPING ENTERPRISE APPLICATIONS</b>		<b>2. Course code</b>		
<b>3. Validity of course description:</b> 2018/2019				
<b>4. Level of studies:</b> BSc programme				
<b>5. Mode of studies:</b> intramural studies				
<b>6. Field of study:</b> COMPUTER SCIENCE		(FACULTY SYMBOL)		
<b>7. Profile of studies:</b> COMPUTER SCIENCE				
<b>8. Programme:</b>				
<b>9. Semester:</b> 6				
<b>10. Faculty teaching the course:</b> Institute of Informatics, RAu2				
<b>11. Course instructor:</b> Pawel Kasproski, PhD				
<b>12. Course classification:</b>				
<b>13. Course status:</b> compulsory				
<b>14. Language of instruction:</b> English				
<b>15. Pre-requisite qualifications:</b> Databases, programming				
<b>16. Course objectives:</b> The purpose of the subject is to show student how multi-tier applications run on application servers work. This topic is explained based on the most popular set of standards gathered under the umbrella of Java Enterprise Edition. During the course student will learn how to create all tiers of the application starting from database tier using JPA (Java Persistence API) and logic tier using EJB (Enterprise Java Beans) and ending with REST tier using JAX-RS specification. Students will build their applications in groups of 2-4 persons.				
<b>17. Description of learning outcomes:</b>				
Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
W1	Knows basic elements of enterprises applications	project	workshop	K1A_W09
W2	Knows JEE standards: JPA, EJB, JAX-RS	project	workshop	K1A_W12
W3	Has knowledge about functionality provided by application servers	project	workshop	K1A_W16
U1	Can develop a database using JPA standard	project	workshop	K1A_U16
U2	Has skills to prepare REST interface using JAX-RS standard	project	workshop	K1A_U24
U3	Is able to build an application deployed on application server that utilizes EJB standard	project	workshop	K1A_U26
K1	Understands pros and cons of the enterprise architecture	project	workshop	K1A_K01
K2	Is ready to collaborate in a group of programmers	project	workshop	K1A_K02
<b>18. Teaching modes and hours</b> <b>Lecture / BA /MA Seminar / Class / Project / Laboratory</b> Project 15h				
<b>19. Syllabus description:</b> Properties of enterprise applications Standards belonging to Java Enterprise Edition Modus operandi of application servers Configuration of enterprise applications – XML, annotations				

Building SOAP and REST web services  
 Connecting with database using JPA  
 Developing REST interface  
 Creating REST clients

**20. Examination:** none

**21. Primary sources:**  
 Bill Burke. RESTful Java with JAX-RS 2.0: Designing and Developing Distributed Web Services  
 Mike Keith and Merrick Schincariol Pro JPA 2 in Java EE 8: An In-Depth Guide to Java Persistence APIs  
 Francesco Marchioni Practical Java EE Development on WildFly

**22. Secondary sources:**  
 Internet sources presented during the lectures and laboratories

**23. Total workload required to achieve learning outcomes**

Lp.	Teaching mode :	Contact hours / Student workload hours
1	Lecture	/
2	Classes	/
3	Laboratory	/
4	Project	15/30
5	BA/ MA Seminar	/
6	Other	/
	Total number of hours	15/30

**24. Total hours:** 45

**25. Number of ECTS credits:** 1

**26. Number of ECTS credits allocated for contact hours:** 1

**27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects):** 1

**26. Comments:**

Approved:

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 (date, Instructor's signature)

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 (date, the Director of the Faculty Unit signature)