(*faculty stamp*) **COURSE DESCRIPTION**

1. Course title: INTRODUCTION TO PROGRAMMING IN JAVA	**2. Course code: Intro_Java**
3. Validity of course description: 2017/2018	
4. Level of studies: 1st cycle of higher education	
5. Mode of studies: intramural studies	
6. Field of study: MACROFACULTY	(RAU)
7. Profile of studies: general academic	
8. Programme: Informatics	
9. Semester: 6	
10. Faculty teaching the course: Faculty Of Automatic Control, Electronics and Informatics	
11. Course instructor: dr inż. Krzysztof Dobosz	
12. Course classification: -	
13. Course status: optional	
14. Language of instruction: English	

15. Pre-requisite qualifications:

It is assumed that the student has the basic knowledge of computer programming in the C++ language.

16. Course objectives:

The aim of the course is to present the idea of programming in Java language and introduction to all technologies which based on Java Virtual Machine.
During the course, the Java programming language will be presented with its means, tools and methods that enable building programs destined for exploitation both as the Internet and standalone applications. Among others, some aspects of Software Engineering will be exposed.

17. Description of learning outcomes:

Nr	Learning outcomes description	Method of assessment	Teaching methods	Learning outcomes reference code
1.	Knowledge of Java programming language.	SP, CL	WM, L	K_W07, K_U10
2.	Ability to create simple Java application.	SP, CL	WM, L	K_W07, K_U10
3.	Knowledge of advanced object-oriented mechanisms in Java	SP, CL	WM, L	K_W08, K_U10, K_U23
4.	Ability to use advanced object-oriented mechanisms in Java	SP, CL	WM, L	K_W08, K_U10, K_U23
5.	Knowledge about unit tests	SP, CL	WM, L	K_W11, K_U18
6.	Ability to create unit tests in Java	SP, CL	WM, L	K_W11, K_U18

18. Teaching modes and hours

Lecture / BA /MA Seminar / Class / Project / Laboratory

Lecture - 15 h, Class - , Laboratory – 15 h

19. Syllabus description:

Lectures includes the following topics:

1. General description of the Java technologies. Java versus C++.
2. Realization of the idea of the object-oriented programming in Java. Reflection.
3. Exception handling. Java extensions.
4. Collections and design patterns in Java applications.
5. Documenting and refactoring.
6. Unit testing. JUnit library.
7. Introduction to Standard Edition And Enterprise Edition.

The laboratories covers the following topics:

1. First steps in Java
2. Advanced Java mechanisms
3. Units tests

20. Examination: no

21. Primary sources:

- The Java Language Specification, Java SE 8 Edition. (https://docs.oracle.com/javase/specs/jls/se8/jls8.pdf)
- The Java Virtual Machine Specification, Java SE 8 Edition. (https://docs.oracle.com/javase/specs/jvms/se8/jvms8.pdf)
- Java Platform, Standard Edition 8, API Specification (http://docs.oracle.com/javase/8/docs/api/)

22. Secondary sources:

23. Total workload required to achieve learning outcomes

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

24. Total hours: 60

25. Number of ECTS credits: 2

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

27. Number of ECTS credits allocated for in-practice hours (laboratory classes, projects): 2

26. Comments:

This course is continued in the next semester under the title "*Programming for the Java Platform Standard Edition*" and "*Programming for the Java Platform Enterprise Edition*"

Approved:

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(date, Instructor's signature) (*date , the Director of the Faculty Unit signature)*