Bialystok University of Technology									
Field of study	**Computer Science**							**Degree level and programme type**	**Engineer's degree full-time programme**
Specialization/ diploma path	---							**Study profile**	academic
Course name	**Bussiness Application Programming in Java**							**Course code**	**FCS-00045**
								Course type	obligatory
Forms and number of hours of tuition	L	C	LC	P	SW	FW	S	**Semester**	1
	30				30			**No. of ECTS credits**	**6**
Entry requirements									
Course objectives	Introduction to Java Enterprise Edition platform/ Jakarta platfomr and development of business applications. Using multi-tier architecture with technologies available in Java EE/ Jakarta EE platform.								
Course content	Lecture: Introduction to application architecture on the Java EE/Jakarta EE platform. Data access: JDBC, DAO/DTO design patterns, Object Relational Mapping, programmatic and declarative transaction handling. Business (logic) layer: components and services in the logic layer, elements of aspect programming. Presentation layer: solutions based on MVC pattern in Java EE platform. Application security models. Practice laboratory: Introduction to tools for developing applications on the Java EE platform. Introduction to application servers. Implementation of access to relational databases, creating components realizing application logic and implementation of the presentation layer using Java EE/Jakarta EE platform technologies.								
Teaching methods	lecture problem, programming,								
Assessment method	Lecture - written test and/or assesment of pratice tasks Practice laboratory - assessment of tasks.								

Symbol of learning outcome	Learning outcomes	Reference to the learning outcomes for the field of study
LO1	Knows how to design, develop and test application using Java EE platform.	K_W06
LO2	Knows techniques for developing networked applications using technologies in Java EE platform technologies.	K_W09
LO3	Designs, implements and test programs and their components according to requirements with technologies and tools using Java Enterprise Edition platform.	K_U06
LO4	Designs and implements networked applications using Java EE platform.	K_U09

Symbol of learning outcome	Methods of assessing the learning outcomes	Type of tuition during which the outcome is assessed
LO1	Written test.	W
LO2	Written test.	W
LO3	Assessment of tasks.	Ps
LO4	Assessment of tasks.	Ps

	Student workload (in hours)	No. of hours
Calculation	1 - Attendance at lectures -	30
	2 - Attendance at laboratories -	30
	3 - Performance of projects tasks (with presentation) -	80
	4 - Participation in student-teacher sessions -	10
	TOTAL:	**150**

Quantitative indicators	HOURS	No. of ECTS credits
Student workload – activities that require direct teacher participation	70 (4)+(1)+(2)	2.8
Student workload – practical activities	110 (2)+(3)	4.4

Basic references	1. Java EE platform documentation : www.oracle.com 2. Jakarta EE platform documentation: https://jakarta.ee. 3. Java EE patterns: http://www.corej2eepatterns.com/
Supplementary references	1. Junit documentation: https://junit.org/junit5/ 2. Maven documentation: https://maven.apache.org/ 3. IntelliJ IDE documentation: https://www.jetbrains.com/opensource/idea/

Organisational unit conducting the course	Software Department	Date of issuing the programme
Author of the programme	dr inż. Marcin Adamski	Feb. 17, 2022

L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW – field work,S – seminar