### Course Information

**Field of study:** Computer Science  
**Degree level and programme type:** Engineer's degree full-time programme  
**Specialization/ diploma path:**  
**Course name:** Business Application Programming in Java  
**Course code:** FCS-00045  
**Course type:** obligatory  
**Forms and number of hours of tuition:**  
<table>
<thead>
<tr>
<th>L</th>
<th>C</th>
<th>LC</th>
<th>P</th>
<th>SW</th>
<th>FW</th>
<th>S</th>
<th>Semester</th>
<th>No. of ECTS credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>30</td>
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<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

**Entry requirements:**  
Introduction to Java Enterprise Edition platform/Jakarta platform and development of business applications. Using multi-tier architecture with technologies available in Java EE/Jakarta EE platform.

**Course objectives:**  
- Lecture: Introduction to application architecture on the Java EE/Jakarta EE platform.  
- 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.

**Course content:**  
- 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.

**Assessment method:**  
- Lecture: written test and/or assessment of practice tasks  
- Practice laboratory: assessment of tasks.

**Teaching methods:** lecture, problem, programming.

**Symbol of learning outcome**  

<table>
<thead>
<tr>
<th>Symbol of learning outcome</th>
<th>Methods of assessing the learning outcomes</th>
<th>Reference to the learning outcomes for the field of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>LO1</td>
<td>Knows how to design, develop and test application using Java EE platform.</td>
<td>K_W06</td>
</tr>
<tr>
<td>LO2</td>
<td>Knows techniques for developing networked applications using technologies in Java EE platform.</td>
<td>K_W09</td>
</tr>
<tr>
<td>LO3</td>
<td>Designs, implements and test programs and their components according to requirements with technologies and tools using Java Enterprise Edition platform.</td>
<td>K_U06</td>
</tr>
<tr>
<td>LO4</td>
<td>Designs and implemented networked applications using Java EE platform.</td>
<td>K_U09</td>
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</table>

**Student workload (in hours):**  
- 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:**  
- **Student workload – activities that require direct teacher participation:**  
  - **Student workload – practical activities:**

<table>
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<tr>
<th>Calculation</th>
<th>Type of tuition during which the outcome is assessed</th>
<th>No. of hours</th>
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<tbody>
<tr>
<td>LO1</td>
<td>Written test.</td>
<td>W</td>
</tr>
<tr>
<td>LO2</td>
<td>Written test.</td>
<td>W</td>
</tr>
<tr>
<td>LO3</td>
<td>Assessment of tasks.</td>
<td>Ps</td>
</tr>
<tr>
<td>LO4</td>
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<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Basic references:**  
1. Java EE platform documentation: [www.oracle.com](http://www.oracle.com)  
2. Jakarta EE platform documentation: [https://jakarta.ee](http://jakarta.ee)  

**Supplementary references:**  
1. Junit documentation: [https://junit.org/junit5/](https://junit.org/junit5/)  
3. IntelliJ IDE documentation: [https://www.jetbrains.com/opensource/idea/](https://www.jetbrains.com/opensource/idea/)

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

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