**Study program:** Modern computer technologies

**Course title:** Object-oriented Programming

**Professor/assistant:** Zoran Veličković / Miloš Stošić

**Type of course:** compulsory

**ECTS credits:** 6

**Pre-requisites:** none

**Aims of the course:**
- Adopt basic concepts of object-oriented programming such as: encapsulation, inheritance, polymorphism, classes, objects and packages,
- Learn the basics of the Java programming language and the specifics of the Javascript executable environment,
- Learn how to solve practical problems by programming platform-independent applications.

**Learning outcomes:**
It is expected that after passing the exam students can:
- Describe the basic components of portable Java applications,
- Use open-source development tools to design platform-based independent applications in Java,
- Compare practical solutions with standard solutions and offer suggestions for improvement,
- Analyze and evaluate the quality of the implemented software solution.

**Syllabus**

*TTheoretical part:*

*Practical part:*
Practical classes follow lectures and are carried out by demonstration through a series of simple examples. Exercises refer to application programming in the integrated development environment of Eclipse. Application of basic classes in Java. Inheriting, overlapping and redefining methods and constructors. Exception processing. Multiple programming. Programming the parameter applets and placing them on a web page. Programming simple server applications in Java.

**Literature**

**Number of active classes**

<table>
<thead>
<tr>
<th>Lectures: 30</th>
<th>Practical classes: 30</th>
<th>Research work:</th>
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**Teaching methods**
Combination of interactive approach with practical problem solving.

**Grading system** (maximum 100 points), **grading scale** from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.

**Pre-exam obligations**

<table>
<thead>
<tr>
<th></th>
<th>points</th>
<th>Final exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>activity during theoretical lectures</td>
<td>10</td>
<td>written exam</td>
</tr>
<tr>
<td>practical training</td>
<td>20</td>
<td>oral exam</td>
</tr>
<tr>
<td>colloquium(s)/seminar papers</td>
<td>40</td>
<td></td>
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<tr>
<td><strong>Sum</strong></td>
<td><strong>70</strong></td>
<td><strong>Sum</strong></td>
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