

## COURSE SYLLABUS AND COURSE REQUIREMENTS ACADEMIC YEAR 2025/2026 II. SEMESTER

<b>Course title</b>	<b>Programming 4</b>
<b>Course Code</b>	IVB056ANMI
<b>Hours/Week: le/pr/lab</b>	1/0/3
<b>Credits</b>	3
<b>Computer Science Bsc</b>	Programming 4 BSc
<b>Study Mode</b>	Full-time
<b>Requirements</b>	Mid term exam
<b>Teaching Period</b>	2025/26/2
<b>Prerequisites</b>	
<b>Department(s)</b>	Systems and Software Technologies
<b>Course Director</b>	Péter Iványi Dr. PhD
<b>Teaching Staff</b>	Zoltan Zidarics

### COURSE DESCRIPTION

The course aims to provide students with **deep, high-level theoretical knowledge in Spring boot programming**, including the **fundamentals of modern Java backend technologies and advanced concepts**. The emphasis of the training is on acquiring **theoretical understanding**, which later allows students to **independently transform it into practical skills and confidently apply industry best practices and principles in designing and developing full-featured web applications**.

### SYLLABUS

#### 1. GOALS AND OBJECTIVES

The course aims to provide students with **deep, high-level theoretical knowledge in Java backend programming**, which can later be **independently transformed into practical skills** and enables them to **confidently apply the best industry practices and principles in designing and developing Java backend applications**.

#### 2. COURSE CONTENT

##### TOPICS

##### LECTURE

Students gain **high-level theoretical knowledge of Java backend programming**, which can later be **easily transformed into practical skills**.

### DETAILED SYLLABUS AND COURSE SCHEDULE

<b>LECTURE</b>	
<i>week</i>	<b>Topic</b>
1.	Java basements for backend programming (Stream API, Annotations, Git)
2.	Java build tools (Maven, Gradle, CI/CD)
3.	XML,JSON,YAML files

4.	JPA
5.	Servlet
6.	JSP,JSF
7.	Spring boot basics
8.	Building REST services
9.	-
10.	Spring boot Thymeleaf
11.	Containerization of Spring boot application
12.	CI/CD
13.	Midterm Exam
14.	Midterm Exam retake

### 3. ASSESSMENT AND EVALUATION

#### ATTENDANCE

*In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.*

**Method for monitoring attendance** (e.g.: attendance sheet / online test/ register, etc.)

*attendance sheet or online test*

#### ASSESSMENT

Homeworks, written test

#### **Course resulting in mid-term grade (PTE TVSz 40§(3))**

Successful completion of the semester requires the **MANDATORY submission of all homework assignments regularly announced on the Microsoft Teams platform**. Students generally have **one week from the assignment announcement** to complete the tasks. During the semester, each student may **submit late up to three times**; beyond this, all assignments must be **submitted by the deadline**. If a homework assignment requires programming, it must be submitted as a **GitHub link via Teams**. It is important that if the instructor deems any submitted work **professionally inadequate, correction and resubmission is MANDATORY** for successful completion of the semester.

Every student is **MANDATORY to deliver at least one professional presentation at the end of the semester**, which counts for **10% of the final grade**. Students may also deliver **up to two additional presentations**, each counting an **extra 10%**, so that presentations can contribute **up to 30% of the total grade**. The topic of the presentation is **jointly selected** from the announced subject areas. The presentation must be prepared as a **public Google Slides document** and delivered at the **pre-agreed time**.

The end-of-semester **written test is MANDATORY FOR ALL STUDENTS** and accounts for **80% of the final grade**. Combined, presentations and the written test can reach a **maximum total score of 110%**, allowing students to demonstrate **extra achievement**.

**Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam**

Type	Weighting as a proportion of the pre-requisite for taking the exam
<i>Midterm exam</i>	80%
<i>Presentation</i>	20%

**Grade calculation as a percentage** based on the aggregate performance according to the following table

<b>Course grade</b>	<b>Performance in %</b>
excellent (5)	85 % ...
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.