

**SYLLABUS FOR 2023/2024 ENROLMENT
FORM OF STUDY: FULL-TIME PROGRAMME**

GENERAL INFORMATION

1. **Course** Basics of object-oriented programming
2. **Field of study** Computer Science
3. **Level of acquired education** first-cycle programme
4. **Number of ECTS credits** 5

5. Number of hours persemester

semester	lecture	classes	laboratory/foreign language course	project/practical classes	self-study	internship
II	15		30			

6. **Language of instruction:** English
7. **Lecturer** dr inż. Jakub Smołka, dr inż. Marcin Klimek, mgr inż. Maciej Hawryluk

DETAILED INFORMATION

8. Preliminary requirements

1. Knowledge of programming basics
2. Basic knowledge of the English language.

9. Course objectives

- C1 Learn the principles of creating object oriented programmes and related concepts.
C2 Learn the syntax of the Java language and platform.

10. Field-specific learning outcomes in terms of knowledge, skills and social competences

A student who completed the course:	reference to field-specific learning outcomes
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KNOWLEDGE

EU01 Knows and understands the concepts characterising the Java platform and creating applications for it, using the available tools. Knows how the Java platform is developed.	K_W07, K_W11
EU02 Knows and understands concepts explaining how to apply basic elements of object oriented programming.	K_W07, K_W11

SKILLS

EU03 Is able to use basic constructions and perform basic operations in Java. Is able to identify differences between data types.	K_U15
EU04 Is able to create applications in an integrated programming environment. Is able to solve unpredictable problems.	K_U02, K_U15, K_U18

SOCIAL COMPETENCES

EU05 Is ready for continuous learning due to rapid technology development	K_K01
EU06 Is ready to take on responsible professional roles	K_K04

11. Course content

Course delivery method – lectures/classes/laboratories/practical classes

Lecture:

1. Introduction to the Java platform, available programming tool.
2. Basic instructions of Java language.
3. Input/output operations.
4. Data types and operators in Java.

5. Arrays in Java.
6. Classes and their components, class versus object.
7. Inheritance.
8. Interfaces and abstract classes.

Laboratory:

1. Input-output operations, data types, control instructions in Java. Getting to know programming tools.
2. Methods and fields (basics).
3. Loops and arrays.
4. Classes and objects.
5. Class constructors.
6. Inheritance and polymorphism.
7. Interfaces.
8. Abstract classes and methods.

12. Teaching tools and methods

1. Lecture in the form of multimedia presentation
2. Individual performance of laboratory activities.

13. Assessment method(component, final)

1. Assessment of current student work
2. Tests in laboratory
3. Written examination in the form of a test with closed questions.

14. Student workload

Form of activity	Number of hours
1. Classes with direct participation of the teacher and office hours	55
2. Student workload	70
sum	125
number of ECTS credits 5	

15. Reference books

Primary:

1) Cay S. Horstmann, Gary Cornell - Java. Podstawy – Helion 2016

2) Joshua Bloch – Java: efektywne programowanie – Helion 2009

Secondary:

1) Marcin Lis - Java. Leksykon kieszonkowy. Wydanie II – Helion 2014

2) Mirosław J. Kubiak - Java. Zadania z programowania z przykładowymi rozwiązaniami – Helion 2011

16. Assessment form - details

Conditions for obtaining course credit: classes end with an exam

Written tests to check student's knowledge

- Duration: 2 lesson hours

- 3 tasks to be programmed on a computer

- At least 50% of the points are required to get a positive mark

- Scoring - each task is on a scale from 0 to 5 points. For each instruction in the task a student can get 1 point. A maximum of 15 points can be obtained from the test.

- 0 - 6,9(9) points - fail (2,0)

- 7 - 8.9(9) points - sufficient (3.0)

- 9 - 9.9(9) points - satisfactory (3.5)

- 10 - 11.9(9) points - good (4.0)

- 12 - 13.9(9) points - very good (4.5)

- 14 - 15 points - excellent (5.0)

Examination in the form of a test with closed questions (21 questions). Time of examination 1 lesson hour. Marks depending on the number of correct answers:

Scoring (for each positive indication 1 point)

- 0 - 10 points - 2.0 (fail)
- 11-12 points - 3.0 (sufficient)
- 13-14 points - 3.5 (satisfactory)
- 15-17 points - 4.0 (good)
- 18-19 points - 4.5 (very good)
- 20-21 points - 5.0 (excellent)

17. Other details concerning the course

1. Direct information about the issues of classes and a program content is provided by the teacher during classes and during office hours.

2. Classes will be held at AB in Biała Podlaska

3. Classes will be held in accordance with the current schedule

4. Office hours will be held in accordance with the applicable schedule