

**FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION**

Course Title:	Programming basics II				
Course code (LAIS):	<i>The course will be registered in the study administration system after accreditation</i>				
Study programme:	Information technologies				
Level of Study programme:	<input type="checkbox"/>	1st level professional higher education			
	<input checked="" type="checkbox"/>	Professional Bachelor			
	<input type="checkbox"/>	Professional Master			
	<input type="checkbox"/>	Academic Master			
	<input type="checkbox"/>	PhD level			
Type of Study programme:	<input checked="" type="checkbox"/>	Compulsory course (Part A)			
	<input type="checkbox"/>	Professional specialization courses (Part B, compulsory)			
	<input type="checkbox"/>	Professional specialization optional courses (Part B, optional)			
	<input type="checkbox"/>	Elective courses (Part C)			
Course Workload:	Credits	ECTS	Academic hours	Contact hours	Independent work hours
	4	6	160	64	96
Course Author/ Tutor:	Miķelis Baltruks				
	Guest lecturer, Mg.sc.comp.				
	e-mail: mikelis.baltruks@gmail.com				
Study Form:	Consultation: according to the schedule for each semester				
Study year, semester:	Full time studies				
Study year, semester:	1., 2.semester				
Language:	Latvian				
Prerequisites for the Course:	-				
Course Summary:	Aim of the course is to introduce students with structured problem solving, basic principles and application of algorithms and object-oriented programming. This course will develop the ability for students to deconstruct programming problems and construct their own solutions for them. Result of this course will be a strong springboard to students for learning more programming languages and deepen their understanding about programming in the future. This course is the second part of programming basics course.				
Assessment:	Exam				
Requirements for Credits:	Student must submit in time and receive a positive assessment of all the assignments. If the work is not submitted within the deadline, the assessment is reduced (-1 point for every week).				
	Students with at least 7.0 GPA and Course work grade at least 8 will be granted an automatic pass in the exam.				
	Only those students who have successfully completed all the tasks planned for the course are eligible for the exam.				
Requirements for Credits:	<u>Final grade is calculated of:</u>				
	15% - homework;				
	25% - tests;				
Requirements for Credits:	20% - practical tasks in class;				
	40% - exam.				
	If course work is done then:				
Requirements for Credits:	70% - course work;				
	30% - tests.				
	Exam grade is calculated as CODE_READ x 0.35 + CODING x 0.65				
Abiding by the Academic Ethics	Students must abide by the academic and research ethics, Vidzeme University of Applied Sciences Ethics Regulations, incl.: – study papers must be independently developed;				

	<ul style="list-style-type: none"> – the study work should reference all statements, ideas and data used that have been authored by someone else; – appropriate data acquisition methods should be used in the acquisition of data, the research ethics must be respected, empirical data must be collected independently and cannot be distorted or falsified; – the examination must be carried out by the student independently, without the use of supporting materials and/or consultations with other students, unless the lecturer states otherwise. <p>In the event of non-compliance with the academic and research ethics, punishment is imposed in accordance with the ViA Ethics Regulations and the study course must be re-taken, unless the punishment is exmatriculation.</p>	
Learning Outcomes; the evaluation methods and criteria	Learning Outcomes	The evaluation methods and criteria
	Knowledge	
	Proper usage of objects, classes and constructors	Code reading and writing tasks, lectures
	Use of object relations	Lectures, practical work
	Dealing with web requests and processing responses	Lectures, practical work
	Basics of visual programming	Lectures, practical work
	Skills	
	Objects and their relations in the use of complex data structure portrayal in code	Practical tasks, discussions, tests, coding projects, lectures
	To independently structure coding projects in good coding patterns and practices	Lectures, practical work
	Competency	
	To create fully functional programming products with high quality codebase, structure and use of objects and their relations	Practical tasks, discussions, tests, coding projects, lectures
Course Compulsory literature:	1. The Java Tutorials (https://docs.oracle.com/javase/tutorial/) 2. Herbert Schildt, Java A Beginner's Guide. 8th Edition 3. M.Baltruks, Lecture materials in electronic form	
Course additional literature:	Miķelis Baltruks Youtube. Java theory, code reading and tasks. Learn Java programming (https://www.programiz.com/java-programming)	
Course confirmation date:	08.12.2022	
Date of course description update:		

Study Course Plan:

Date	Theme	Academic hours		Study Form/ Organization of independent work of students and task description
		Contact hours	Independent work hours	
<i>The date is specified before the implementation of the course</i>	Complex class structures	6	9	Lectures, group and individual coding projects, homework
	Passing object references	3	9	Lectures, homework

	Object relations	4	6	Lectures
	Object relations advanced	6	6	Lectures, group and individual coding projects, homework
	Inheritance	3	6	Lectures, group and individual coding projects, homework
	Multi-threaded programming	3	4	Lectures, group and individual coding projects, homework
	Code structure, optimization	6	6	Lectures, discussions, homework
	Advanced OOP code structure and defensive programming	6	6	Lectures, discussions, homework
	Web requests and reading web pages	3	4	Lectures, group and individual coding projects, homework
	Java 8-10 features	3	4	Lectures, homework
	Visual programming with JFrame	3	2	Individual coding projects
	Visual diagrams and data update on the fly	3	1	Lectures, group projects
	Advanced additional projects (optional)	6	6	Individual coding projects
	Course work	6	40	Individual coding project
	Exam	3	3	Individual exam
	Hours total:	64	96	