INTRODUCTION TO PROGRAMMING WITH JAVA

4 WEEK ONLINE CERTIFICATE COURSE

COURSE FEE – CHF 490

START DATE: MAY 4.2023

REGISTER NOW: info@alss-edu.ch

Course Introduction

The course provides an introduction to basic concepts in programming with Java programming language. The topics are conveyed with examples that can be extended and altered by the students for further learning. Students will be given practice assignments after each session. The two hour sessions will be held online on the announced dates with an optional bonus session following the core sessions.

The course is designed and delivered by an international university instructor of Computer Engineering. It is being offered as an open course and can be attended by anyone who is, or aspires to get, involved in the industry of software development, or willing to understand the basic technical details in order to better communicate their ideas to developers.

Course Outcomes

Upon completion of this course, you should be able to:
- Install and use an integrated development environment (IDE)
- Define and use variables
- Implement graphical applications using Turtle library
- Use "for" loops for repetitive tasks
- Perform mathematical calculations within a Java program
- Receive and process input from the users
- Define and call functions for structured tasks at different parts of the program
- Define and use Java arrays
- Use "while" loops
- Use nested loops
- Design conditional workflows and use "if", "else if", "else" statements
- Construct compound logical statements using boolean operators
- Consider algorithm complexity during solution design.

Accreditation and certification

The Academy of Leadership Sciences Switzerland (ALSS) is an international education institution that offers continuing education, further education, and post graduate advanced education courses, workshops and programs focusing on advanced studies in Leadership and Management. The ALSS also offers short courses that are not credit-bearing, and do not lead to formal qualifications. All attendees who attend all presentations of the *Crash Course on Introduction to Programming with Java* will be awarded certificates of successful attendance by the ALSS.

Course Subjects

- Meeting Java and Integrated Development Environments (IDE)
- IDE Installation
- First Java Program
- Turtle Graphics Library
- Variables
- "for" Loops to Repeat Instructions in Java
- Arithmetic and Assignment Operators
- Input and Output Operations
- Functions
- Arrays
- Nested Loops
- "while" Loops
- Control Flow, Decision with "if", "else if", and "else" Statements
- Boolean Operators
- Compound Logical Expressions
- Animating Shapes with Turtle
- Algorithm Performance Evaluation

Course Structure

Week 1	Introduction to Java & Programming Environment (2 hours) Meeting Java and Integrated Development Environments (Eclipse, NetBeans, IntelliJ IDEA, VSCode) Eclipse Installation Our First Java Program Using Turtle Graphics Library with Java Variables

Week 2

Operations and Loops with Java (2 hours)
"for" Loops to Repeat Instructions in Java
Arithmetic and Assignment Operators
Input and Output Operations

Week 3

Functions and Array Structures (2 hours)
Functions
Arrays
Nested "for" Loops

Week 4

Logic and Decision Structures (2 hours)
"while" Loops
Control Flow, Decision with "if", "else if", and "else" Statements
Boolean Operators
Compound Logical Expressions

Bonus

Animation and Performance (2 hours)
Animating Shapes with Turtle
Algorithm Performance Evaluation

Duration of the Course: 4 weeks (every Thursday two hours webinar at 6pm CET Time)	**Language** English
Start Date May 4.2023	**Study Options** 100 % online per Zoom or other
Admission Requirements Anyone who is, or aspires to get, involved in the industry of software development can enroll for this course. Internet access and an email address are required.	**Tutorial fees for the whole course** CHF 490 to be paid at least one week before the course starts.

Course Leader

Dr. Murat Özyurt, PhD

Dr. Murat Özyurt is a computer engineering instructor. He has received his BS degree in computer engineering in 2005, MS degree in software engineering in 2008, and PhD degree in computer engineering in 2019 from Bogazici University. He has worked as a software engineer, architect, team lead in commercial projects as well as R&D project. He is also running his own companies for consultancy and development of software projects. Dr. Özyurt has been working with ALSS since 2023 on IT courses. He has also been lecturing in Bogazici University Computer Engineering Department since 2020 on Introduction to Programming Courses. Dr. Özyurt has assisted similar courses since 2016 with a specialized platform Teaching.Codes, which is designed to address lectures and automated evaluation and grading of student submissions in programming courses. Has has been generating programming courses contents and examples for Java and Python programming languages. His professional experience is based mostly on computer networks, telecommunications infrastructure planning projects, web applications, 3D applications, mobile games, etc. More detailed information about Dr. Özyurt can be found in https://linkedin.com/in/muratozyurt. Similarly his recent publications can be accessed through https://www.researchgate.net/profile/Murat-Ozyurt-2 .