**Course outline for project “Online Trainings for 2500 Georgian students” 2021 – 2023**

General info

We are searching for 1000 students to be trained between Feb 2022 and May 2022. They should pass their international exam by the end of June 2022 and speedup their professional development.

Applications are collected from 7th Dec to 30 Dec 2021.

Read carefully course outline and prerequisites, then apply for course(-es) that is/are part of your career development path. Our Student Selection team will review your CV and will give you a score, according to how much you are а good candidate for that course.

During the week of 10th to 15th Jan 2021, you will need to pass an online assessment for each of your applications. Information about assessments will be sent via email and published on [project website](https://ict.gov.ge/?en).

Schedule of classes - dates and hours

Below are listed class dates and hours of lectures for this class.

Most classes will require you to dedicate extra time for post class review and home assignments. As a rule, you must spend at least 2 to 3 times the class hours for homework and material review. For example, if course **C++ Certified Associate Programmer** has 40 class hours, you need to spend from 80 to 120 hours doing homework and reviewing the materials to prepare for the exam. The time for study may vary based on your previous experience and knowledge.

Be prepared that your career is a journey, not a destination, and learning will never stop!

Good luck!

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| 10 | Introduction to Java Programming + Spring | 48 | **Group 1**  Sat, 10:00 – 16:00 UTC+4   1. Sat, 05.02.2022 2. Sat, 12.02.2022 3. Sat, 19.02.2022 4. Sat, 26.02.2022 5. Sat, 05.03.2022 6. Sat, 12.03.2022 7. Sat, 19.03.2022 8. Sat, 26.03.2022 |

G10: Back-End programming languages Java + Spring

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| Exam: Oracle Certified Associate, Java SE 8 Programmer I  Link to exam: <https://education.oracle.com/java-se-8-programmer-i/pexam_1Z0-808>  The Java SE 8 Oracle Certified Associate (OCA) certification helps you build a foundational understanding of Java, and gaining this certification credential is the first of two steps in demonstrating you have the high-level skills needed to become a [professional Java developer](https://education.oracle.com/oracle-certified-professional-java-se-8-programmer/trackp_357).  Steps to Become an Oracle Certified Associate (OCA) Java SE 8 Programmer   * Step 1: Prepare to take the required OCA exam by taking [beginner and intermediate Java SE 8 training](https://education.oracle.com/java/java-se/product_267) and gaining practical, hands-on experience. * Step 2: Take and pass the [Java SE Programmer I exam (1Z0-808)](https://education.oracle.com/java-se-8-programmer-i/pexam_1Z0-808). * Format: Multiple Choice * Duration: 150 * Number of Questions: 70 * Passing Score: 65% * Validation: This exam has been written for the Java SE 8 release. |
| 10. Introduction to Java programming + Spring  Duration: 5 days / 40 hours  Course Overview  This is a comprehensive and hands-on training course geared for developers who have little or no prior working knowledge of object-oriented programming languages, such as those working on C, COBOL, 4GL, etc. Students will get the required skills to develop solid object-oriented applications written in Java, using sound coding techniques and best coding practices.  Audience  This course is suitable for programmers with little or no Object-Oriented background, such as C, COBOL, Mainframe, 4GL developers, etc.  Prerequisites  To attend this course, you need:   * Little or no Object-Oriented background, such as C, COBOL, Mainframe, 4GL developers, etc. * General familiarity with Java.   Course Objectives  Geared for developers with prior OO development experience in languages such as C#, C++ or SmallTalk, this course will teach students everything they need to become productive in essential Java programming.  Working within an engaging, hands-on learning environment, guided by our trainer, attendees will learn how to:   * Understand what OO programming is and what the advantages of OO are in today's world. * Work with objects, classes, and OO implementations. * Understand the basic concepts of OO such as encapsulation, inheritance, polymorphism, and abstraction. * Understand not only the fundamentals of the Java language, but also its importance, uses, strengths and weaknesses. * Understand the basics of the Java language and how it relates to OO programming and the Object Model Work with the Java 9 modular system (Project Jigsaw). * Learn to use Java exception handling features. * Understand and use classes, inheritance, and polymorphism. * Understand and use collections, generics, autoboxing, and enumerations. * Process large amount of data using Lambda expressions and the Stream API Use the JDBC API for database access. * Take advantage of the Java tooling that is available with the programming environment being used in the class Specific Java 9 features that are covered in the course: The Modular system (Project Jigsaw) Private methods in interfaces.   Course Outline  1 - JAVA: A FIRST LOOK   * The Java Platform * Using the JDK * Variables * The IntelJ IDE   2 - GETTING STARTED WITH JAVA   * Writing a Simple Class * Adding Methods to Class   3 - OO CONCEPTS   * Object-Oriented Programming * Inheritance, Abstraction, and Polymorphism   4 - ESSENTIAL JAVA PROGRAMMING   * Language Statements * Using Strings * Specializing in a Subclass * Fields and Variables * Using Arrays * Java Packages and Visibility   5 - OBJECT ORIENTED DEVELOPMENT   * Inheritance and Polymorphism * Interfaces and Abstract Classes   6 - EXCEPTION HANDLING   * Introduction to exception handling * Exceptions   7 - JAVA DEVELOPER'S TOOLBOX   * Utility Classes * Formatting Strings   8 - ADVANCED JAVA PROGRAMMING   * Introduction to Generics * Lambda Expressions and Functional Interfaces   9 - WORKING WITH COLLECTIONS   * The Collection API * Using Collections   10 - STREAM API   * Streams * Collectors   11 - ACCESSING RESOURCES   * Java Data Access JDBC API * Introduction to Annotations (optional)   12 - DATABASE DEVELOPMENT FOR JAVA DEVELOPERS   * Database development is essential for development of SQL or No-SQL databases, according to the trainees’ choice   13 – Spring Overview and architecture   * IoC, Dependency Injection & Aspect Programming * Core Container, Web layer and Application Context * Spring terminology * My First Spring project   14 – Beans in Spring   * Define a bean * Scopes of beans * Beans lifecycle * Configurable classes   15 – Dependency injection   * Constructor vs setter injection * Injecting collections * Autowiring |