Entry Level Developer – a Startel special e-learning collection

Met dit ideale zelfstudiepakket maak jij een goed begin voor een programmeercarrière.

Algemene omschrijving

Dit zelfstudiepakket bevat de volgende onderwerpen:

- Developer Fundamentals.
  - Track 1: Programming Fundamentals.
  - Track 2: Web Fundamentals.
  - Track 3: Database Fundamentals.
  - Track 4: Software Design and Development Fundamentals.
- User Experience (UX) Design Foundations.
- Introduction to Algorithms and Data Structures.
- Getting Started with Python.
- JavaScript Essentials.
- Software Testing Foundations.

Doelgroep

Dit zelfstudiepakket is geschikt voor iedereen die basis programmeervaardigheden wil krijgen.

Leerdoelen

Met dit zelfstudiepakket kun jij je voorbereiden op het examen IT-Specialist – Software Development en het Java OCA-examen.

Voorkennis

Je hebt geen specifieke voorkennis nodig om dit zelfstudiepakket door te mogen nemen. Wij raden daarentegen aan dat jij basiskennis hebt van ICT.

Onderwerpen

Developer Fundamentals

This learning focuses on the prerequisites for every software development-related Journey or learning path. It's primarily designed for those who are new to programming and will help you acquire a stronger and better understanding of software development before getting deeply into learning any core programming language.

Among the topics covered in this Journey are key programming fundamental concepts such as Object-Oriented Programming (OOP), databases, and Software Development Life Cycle (SDLC) phases and models. In addition, the Developer Fundamentals learning kit introduces concepts related to software design and development principles.

Track 1: Programming Fundamentals

In this track, the focus will be on programming fundamentals where one can learn to build program logic with pseudocode, the purpose of the algorithm, Object-oriented concepts, and the best programming practices.

Courses:

- Programming Fundamentals: Command Line Interface & Operating System Commands.
- Programming Fundamentals: Introduction to Programming.
- Programming Fundamentals: Systematic Design with Pseudocode.
- Programming Fundamentals: Algorithms, Sorting, & Searching.
- Programming Fundamentals: Object-oriented Programming.
- Programming Fundamentals: Programming Best Practices.

Assessment

- Final Exam: Programming Fundamentals.

Track 2: Web Fundamentals

In this track, the focus will be on web development essentials that cover the core elements and features of HTML, styling techniques with CSS, and the staples of everlasting scripting language JavaScript.

Courses:

- Web Fundamentals: Web Development with HTML.
- Web Fundamentals: Cascading Style Sheets for Web Pages.
- Web Fundamentals: Web Fundamentals: Dynamic Web Pages with JavaScript.

Assessment

- Final Exam: Web Fundamentals.

Track 3: Database Fundamentals

In this track, the focus will be on database concepts, RDBMS with a handful of demos on various SQL commands using MySQL.

Courses:

- Database Fundamentals: Database Concepts.
- Database Fundamentals: Understanding Relational Database Management Systems.
- Database Fundamentals: Getting started with SQL.
- Database Fundamentals: Working with SQL Commands.
- Database Fundamentals: Database Administration Basics.

Assessment:

- Final Exam: Database Fundamentals.

Track 4: Software Design and Development Fundamentals

In this track, the focus will be on software design and development principles that empowers you to recognize why software engineering is always the base for any sort of application development and to embrace the patterns, principles, models, and tools used in the development.

Courses:

- Software Design and Development: Software Engineering & SDLC Phases.
- Software Design and Development: Methodologies.
- Software Design and Development: Object-oriented Analysis and Design.
- Software Design and Development: Modeling with UML.
- Software Design and Development: Design Patterns & SOLID Principles.
- Software Design and Development: Version Control System.

Assessment

- Final Exam: Software Design and Development Fundamentals.

User Experience (UX) Design Foundations

A positive and effective user experience is crucial to the success of an application. This learning path covers the importance of identifying your users, using consistent and simple design patterns, implementing effective navigation and layout, incorporating media elements, using advertisements, and implementing user interface design strategies and tools such as Lean UX and wireframing.

Courses in this collection:

- UX Design Foundations: Design Principles and Strategies.
- UX Design Foundations: Techniques and Tools.
- UX Design Foundations: Navigation, Layout, and Content.

Introduction to Algorithms and Data Structures

- Introduction to Algorithms and Data Structures.

Getting Started with Python

Python continues to be one of the fastest-growing programming languages in the market today. Because of its ease of use and numerous supporting frameworks, it is widely used in web development, writing scripts, automating tasks, data science, and even cybersecurity. In this collection the focus is getting started with Python, complex data types, conditional statements and

loops, and first-class functions and lambdas.

E-learning courses:

- Getting Started with Python: Introduction.
- Complex Data Types in Python: Working with Lists & Tuples in Python.
- Complex Data Types in Python: Working with Dictionaries & Sets in Python.
- Complex Data Types in Python: Shallow & Deep Copies in Python.
- Conditional Statements & Loops: If-else Control Structures in Python.
- Conditional Statements & Loops: The Basics of for Loops in Python.
- Conditional Statements & Loops: Advanced Operations Using for Loops in Python.
- Conditional Statements & Loops: While Loops in Python.
- Functions in Python: Introduction.
- Functions in Python: Gaining a Deeper Understanding of Python Functions.
- Functions in Python: Working with Advanced Features of Python Functions.

Online Mentor

- You can reach your Mentor by entering chats or submitting an email.

Assessment

- Final Exam: Python Novice.

JavaScript Essentials

JavaScript is the de facto standard for writing front-end user interfaces for web applications. This series of courses covers many facets of programming rich interactive user experiences with JavaScript.
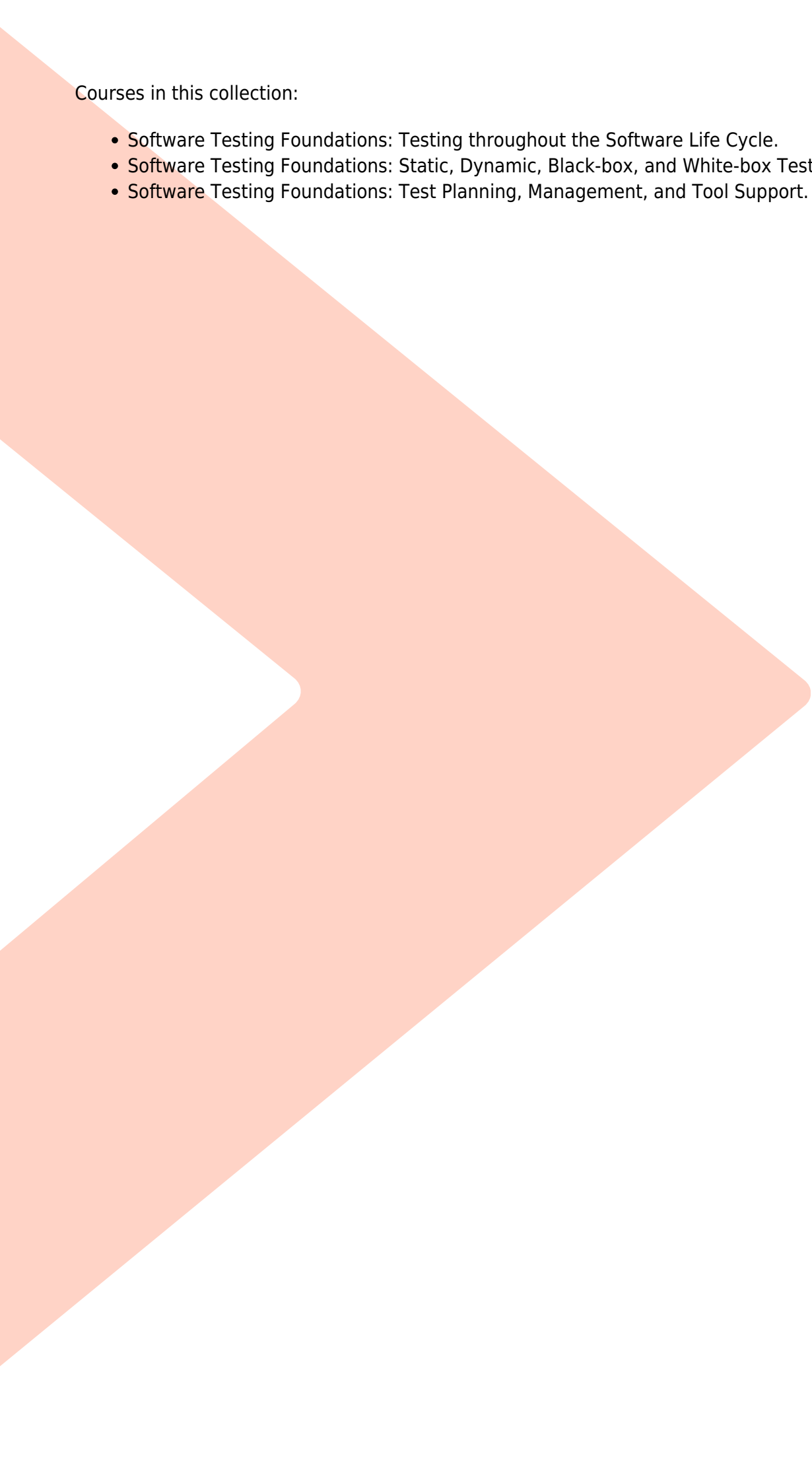
Courses in this collection:

- JavaScript: Introduction.
- JavaScript: Getting Started with JavaScript Programming.
- JavaScript: Types, Operators, & Control Structures in JavaScript.
- JavaScript: Functions & Arrays in JavaScript.
- JavaScript: Objects.
- Web Fundamentals: Dynamic Web Pages with JavaScript.

Software Testing Foundations

Software systems are increasingly ubiquitous in all aspects of our lives. Failures in these systems can be costly in terms of money, time, and business reputation. Some software failures can even result in personal injury or death. Effective software testing is integral to mitigating harm caused by software failures and providing confidence in software systems.

This path of courses introduces the objectives, principles, psychology, ethics, and fundamental processes associated with software testing. It covers testing throughout the software life cycle, static techniques, and test design techniques including black-box and white-box testing. You'll learn about test management, including planning, configuration, monitoring, and risk management. Finally, you'll learn about the tool support for testing – the types of tools available and how to introduce tools to your organization.

Courses in this collection:

- Software Testing Foundations: Testing throughout the Software Life Cycle.
- Software Testing Foundations: Static, Dynamic, Black-box, and White-box Testing.
- Software Testing Foundations: Test Planning, Management, and Tool Support.