

Object-Oriented Programming and Design Using Java (Third Edition)

Course length: 1 day

Course Description

You have probably written software code that focuses on the procedures of a system. You may now need to write code that focuses on the properties of the objects involved in the system rather than the procedures. In this course, you will examine the concepts underlying the object-oriented programming model.

Course Objective: You will examine the principles of object-oriented programming and design.

Target Student: The target student is interested in learning general object-oriented programming concepts. This course provides a foundation for students desiring to go on and learn one or more object-oriented programming languages.

Prerequisites: To ensure your success, we recommend you first take the following Element K courses or have equivalent knowledge: Introduction to Programming using Java

Delivery Method: Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

Performance-Based Objectives

Upon successful completion of this course, students will be able to:

- Identify the key phases in software product development.
- Explore software design methodologies and tools.
- Describe the characteristics and benefits of object-oriented programming.
- Identify the elements of object-oriented programming.
- Determine the use of object-oriented programming in windowed applications.
- Examine application development for the internet.

Course Content

Lesson 1: Identifying the Key Phases in Software Product Development

Topic 1A: Identify the Aspects of a Good Project Plan

Topic 1B: Identify the Elements in Software Requirements Specifications

Topic 1C: Determine the Steps Involved in Designing a Class Structure

Topic 1D: Examine the Coding Process

Lesson 2: Exploring Software Design Methodologies and Tools

Topic 2A: Identify the Characteristics of Software Design Methodologies

Topic 2B: Examine the Different Types of UML Diagrams

Lesson 3: Describing the Characteristics and Benefits of Object-Oriented Programming

Topic 3A: Examine the Different Approaches to Problem-Set Analysis

Topic 3B: Describe the Evolution of Object-Oriented Programming Languages

Topic 3C: Identify the Benefits of Object-Oriented Programming



Lesson 4: Identifying the Elements of Object-Oriented Programming

Topic 4A: Define Object Relationships and Attributes

Topic 4B: Identify the Relationship Between Classes

Topic 4C: Implement Multiple Forms of the Same Procedure

Lesson 5: Determining the Use of Object-Oriented Programming in Windowed Applications

Topic 5A: Explore the Structure and Working of a Windowed Application

Topic 5B: Examine the Use of Frameworks in Developing an Application

Lesson 6: Examining Application Development for the Internet

Topic 6A: Examine the Web Communication Process

Topic 6B: Examine the Technologies Involved in Web Communication

Topic 6C: Identify Web Objects

Topic 6D: Create a Web-based Application Using Java

