

The Hong Kong University of Science and Technology

UG Course Syllabus

Course Title: Java Programming

Course Code: COMP 3021

No. of Credits: 3 units

Prerequisite(s): COMP 2012 OR COMP 2012H

Exclusion(s): ISOM 3320

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Course Description

Introduction to Java programming. Fundamentals include language syntax, object-oriented programming, inheritance, polymorphism, exception handling, multithreading and lambdas. Standard libraries for input/output, graphics programming, built-in data structures. Programming for events, generics and higher-order functions.

List of Topics:

1. Classes and Objects
2. Java Development Tools (IntelliJ)
3. String Processing and Text Input/Output
4. Inheritance and Polymorphism
5. Interfaces and Inner Classes
6. Unit Testing
7. Exceptions
8. Generic Programming
9. Lambdas and functional programming
10. Event Handling and GUI programming
11. Multithreading

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
In-class Quizzes and Participation	8%
Laboratory exercises	8%
Course assignments	40%
Examination	44%

Required Texts and Materials

Recommended Textbook:

Introduction to Java Programming and Data Structures: Comprehensive Version, Y Daniel Liang. Pearson, c2019, 11th Edition.

[Optional] Additional Resources

Java SE 8 for the Really Impatient, Cay S. Horstmann, Addison-Wesley Professional, c2014, 1st Edition.

Java 8 in Action: Lambdas, streams, and functional-style programming, Raoul-Gabriel Urma, Mario Fusco and Alan Mycroft, Manning Publications, c2014, 1st Edition.

Core Java: Volume I - Fundamentals, Cay S. Horstmann, Prentice Hall, c2019, 11th Edition.

Core Java: Volume II - Advanced Features, Cay S. Horstmann, Prentice Hall, c2019, 11th Edition.