

The Hong Kong University of Science and Technology

UG Course Syllabus

Java Programming Bridging Course

COMP 1029J

1 Credit

Exclusion(s): COMP 1022P, COMP 3021, ISOM 3320

Prerequisite(s): COMP 1002 OR COMP 1004 OR COMP 1021 OR COMP 1022Q OR ISOM 3230

Name: Gibson Lam

Email: gibson@cse.ust.hk

Course Description

This course introduces the Java programming language. It is intended for students who already have some experience in computer programming but wish to learn how to apply those programming skills to the Java language. The course covers basic programming topics such as variables, control statements, loops, functions, and object-oriented programming concepts. Students explore these by self-learning of course materials together with guided programming exercises. Students without the prerequisites but possess relevant programming knowledge may seek instructor's approval for enrolling in the course. Graded P or F.

List of Topics

Introduction to Java

- Using Java and BlueJ
- Variables and Data Types
- Basic Java Operators
- Text Input and Output

Essential Programming in Java

- Using Strings
- Making Decisions
- Loops
- Functions

Object-oriented Programming and Arrays

- Basic Object-oriented Programming
- Using the Main Function
- Arrays

Advanced Topics

- File Input and Output
- Recursion
- Inheritance

Greenfoot

- Using Greenfoot
- Creating a Player
- Creating an Enemy
- Making a Game

Intended Learning Outcomes (ILOs)

1. Define basic programming elements such as variables, control, loops and functions in Java
2. Describe object-oriented programming concepts in Java
3. Describe data structures and data abstraction in Java
4. Design, write and debug computer programs in Java

Assessments:

Assessment Task	Contribution to Overall Course grade (%)
Online exercises	50%
Final examination	50%

Required Texts and Materials

N/A

Additional Resources

Online course content to be published in HKUST canvas when the semester begins.