

**City University of Hong Kong**  
**Course Syllabus**

**offered by Department of Information Systems**  
**with effect from Semester A 2022 / 23**

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**Part I Course Overview**

<b>Course Title:</b>	<u>JAVA Programming for Business Applications</u>
<b>Course Code:</b>	<u>IS5311</u>
<b>Course Duration:</b>	<u>One Semester (13 weeks)</u>
<b>Credit Units:</b>	<u>3</u>
<b>Level:</b>	<u>P5</u>
<b>Medium of Instruction:</b>	<u>English</u>
<b>Medium of Assessment:</b>	<u>English</u>
<b>Prerequisites:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Precursors:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Equivalent Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Exclusive Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>

## Part II Course Details

### 1. Abstract

The aim of this course is to introduce the students to essential business problem solving with programming concepts and skill, with emphasis on object-oriented programming for business information systems construction. On completion of this course, student should be able to: a) understand how to solve basic problems with Java; b) construct simple business application with Java classes/libraries.

### 2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Describe the foundations of business software construction.	10%			
2.	Design and develop appropriate control structures for business applications.	30%	✓	✓	✓
3.	Design and develop appropriate modularity to be used in business software construction.	30%	✓	✓	✓
4.	Design and develop appropriate simple data structure and algorithm for business software construction.	30%			
		100%			

A1: Attitude

*Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.*

A2: Ability

*Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.*

A3: Accomplishments

*Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.*

### 3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.				Hours/week (if applicable)
		1	2	3	4	
TLA1: Lecture	Concepts and general knowledge of business information systems construction are explained. Furthermore, basic business software construction knowledge and skills, such as control structures, simple data structure, object-oriented programming are explained and illustrated. Examples are used to enable students' understanding on practices in business information system construction.	✓	✓	✓	✓	
TLA2: Laboratory	During laboratory sessions, the following activities are used to reinforce and practice of various business software construction techniques learnt in lectures.  Exercises: Hands-on activities using a programming tool Java as part of systems development exercises.		✓	✓	✓	
TLA3: Project	Students would have to complete a project requiring them to analyse a business problem and design solution, aimed at constructing a module to be used in the business information system construction.		✓	✓	✓	

#### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.				Weighting	Remarks
	1	2	3	4		
Continuous Assessment: 100%						
AT1: Continuous Assessment Participation in class and lab sessions in activities such as: - a number of take-home exercises - class tutorial and performance - online quizzes	✓	✓	✓	✓	10%	
AT2: Project Each student will design and develop a solution to analyse a given business problem by using appropriate techniques.		✓	✓	✓	40%	
AT3: Individual Lab Test The individual lab test is to assess students' overall competence level in the domain areas.		✓	✓	✓	50%	
					100%	

## 5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
AT1: Continuous Assessment	Ability to accurately describe all key concepts, and effectively compare and discriminate among the key concepts;	High	Moderate	Basic	Not even reaching marginal levels
	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for business information system development.	High	Moderate	Basic	Not even reaching marginal levels
AT2: Project	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for solving a practical business problem and build a module to be used in information system construction. .	High	Moderate	Basic	Not even reaching marginal levels
AT3: Individual Lab Test	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for business information system development.	High	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
AT1: Continuous Assessment	Ability to accurately describe all key concepts, and effectively compare and discriminate among the key concepts;	High	Significant	Moderate	Basic	Not even reaching marginal levels
	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for business information system development.	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT2: Project	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for solving a practical business problem and build a module to be used in information system construction. .	High	Significant	Moderate	Basic	Not even reaching marginal levels
AT3: Individual Lab Test	Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of control structures for business information system development.	High	Significant	Moderate	Basic	Not even reaching marginal levels

**Part III Other Information** (more details can be provided separately in the teaching plan)

**1. Keyword Syllabus**

*(An indication of the key topics of the course.)*

Flow Control structures, Object-oriented programming, Modularity, Data structure, Inheritance, Graphical User Interface, Business software construction.

Detailed Syllabus:

- Introduction business softwares
- Java basics
- Basic Data Types
- Program Flow Control
- Program Modularity
- Simple Business Software Application Examples

**2. Reading List**

**2.1 Compulsory Readings**

*(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*

1.	Starting Out with Java: From Control Structures through Objects: International Edition, 6/E, Tony Gaddis, ISBN-13: 978-0133957051
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**2.2 Additional Readings**

*(Additional references for students to learn to expand their knowledge about the subject.)*

1.	Herbert Schildt, "Java: The Complete Reference", 11th Edition, McGraw-Hill Education, December 2018
2.	Tony Gaddis, "Starting Out with C++, From Control Structures Through Objects" 9 <sup>th</sup> edition, Pearson, February 2017.
3.	David Schneider, "An Introduction to Programming Using Python", Person Education, 2 February 2015.