

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Information Systems  
with effect from Semester A 2017 / 2018**

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**Part I Course Overview**

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|--------------------------------------------------------------|---------------------------------------|
| <b>Course Title:</b>                                         | <u>Business Software Construction</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><br><i>(Course Code and Title)</i>      | <u>Nil</u>                            |
| <b>Precursors:</b><br><i>(Course Code and Title)</i>         | <u>Nil</u>                            |
| <b>Equivalent Courses:</b><br><i>(Course Code and Title)</i> | <u>Nil</u>                            |
| <b>Exclusive Courses:</b><br><i>(Course Code and Title)</i>  | <u>Nil</u>                            |

## Part II Course Details

### 1. Abstract

*This course aims to:*

The aim of this course is to introduce the students to essential business programming concepts and skill, with emphasis on business information systems construction. On completion of this course, student should be able to: a) understand basic problem solving; b) construct simple business software application to solve a particular business problem using a commonly used business programming language, Visual Basic.

### 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<br>(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 software construction.    | 30%                          | ✓                                                                                       | ✓  | ✓  |
| 3.  | Design and develop appropriate modularity for business software construction.            | 30%                          | ✓                                                                                       | ✓  | ✓  |
| 4.  | Design and develop appropriate simple data structure 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.)

Lecture : 13 hours

Laboratory : 26 hours

| TLA                 | Brief Description                                                                                                                                                                                                                                                                                                                                                                                      | CILO No. |   |   |   | Hours/week<br>(if applicable) |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|-------------------------------|
|                     |                                                                                                                                                                                                                                                                                                                                                                                                        | 1        | 2 | 3 | 4 |                               |
| TLA1:<br>Lecture    | Concepts and general knowledge of business information systems construction are explained. Furthermore, basic business software construction knowledge and skills, such as control structures, modularity, simple data structure are explained and illustrated using examples to enable students understanding on constructing business information system construction and practical characteristics. | ✓        | ✓ | ✓ | ✓ |                               |
| TLA2:<br>Laboratory | During laboratory sessions, the following activities are used to reinforce and practice of various business software construction techniques learnt in lectures.<br><br><i>Exercises:</i> Hands-on activities using a programming tool (e.g., Microsoft Visual Basic) as part of systems development exercises.                                                                                        |          | ✓ | ✓ | ✓ |                               |
| TLA3:<br>Project    | Students would have to complete a group project requiring them to perform systems development activities, aimed at constructing a practical application prototype for 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%                                                                                                                                     |          |   |   |   |           |         |
| <b>AT1: Continuous Assessment</b><br>Participation in class and lab sessions in activities such as:<br>- a number of take-home exercises<br>- class performance | ✓        | ✓ | ✓ | ✓ | 20%       |         |
| <b>AT2: Project</b><br>Each team of 2 or 3 students will design and develop a proposed business information system, by using appropriate techniques             |          | ✓ | ✓ | ✓ | 40%       |         |
| <b>AT3: Individual Lab Test</b><br>The individual lab test is to assess students' overall competence level in the domain areas.                                 |          | ✓ | ✓ | ✓ | 40%       |         |
|                                                                                                                                                                 |          |   |   |   | 100%      |         |

## 5. Assessment Rubrics

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

| 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 |
|                            | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of modularity for business information system development.             | High                  | Significant      | Moderate         | Basic        | Not even reaching marginal levels |
|                            | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of simple data 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 business information system development.     | High                  | Significant      | Moderate         | Basic        | Not even reaching marginal levels |
|                            | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of modularity for business information system development.             | High                  | Significant      | Moderate         | Basic        | Not even reaching marginal levels |
|                            | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of simple data structures for business information system development. | 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 |
|                            | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area                                                                        | High                  | Significant      | Moderate         | Basic        | Not even reaching marginal levels |

|  |                                                                                                                                                                              |      |             |          |       |                                   |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|----------|-------|-----------------------------------|
|  | of modularity for business information system development.                                                                                                                   |      |             |          |       |                                   |
|  | Ability to creatively, effectively, efficiently and accurately perform programming skills in the area of simple data 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.)*

Control structures, Modularity, Data structure, Business software construction.

Detailed Syllabus:

- Introduction to VB.NET and business software solutions
- Program Control
- Program Modularity
- Basic Data Types
- 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. | Deitel, H.M. & Deitel, P.J., Visual Basic B 2012: How to Program, 6 <sup>th</sup> edition, Prentice-Hall, 2012, Schneider, David I. |
|----|-------------------------------------------------------------------------------------------------------------------------------------|

**2.2 Additional Readings**

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

|    |                                                                                                                  |
|----|------------------------------------------------------------------------------------------------------------------|
| 1. | Bradley and Millspaugh, An Introduction to Programming Using Visual Basic.Net, 9th edition, Prentice Hall, 2012. |
| 2. | Programming in Visual Basic 2010, McGraw Hill, 2010.                                                             |

- Updated SYL template in July 2017.