

**City University of Hong Kong
Course Syllabus**

**offered by Department of Management Sciences
with effect from Semester A 2017 /18**

Part I Course Overview

Course Title:	Quantitative Business Analysis with Visual Basic for Applications
Course Code:	MS3111
Course Duration:	One Semester
Credit Units:	3
Level:	B3
Proposed Area: <i>(for GE courses only)</i>	<input type="checkbox"/> Arts and Humanities <input type="checkbox"/> Study of Societies, Social and Business Organisations <input type="checkbox"/> Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	Nil
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course aims to provide an introduction to manipulate data in Excel and create report support systems programmatically using Excel VBA programming language. Students can also use the knowledge learned from this course to develop applications in other areas such as statistical analysis, or financial modelling.

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.	Demonstrate knowledge of general programming logic and demonstrate skills in using VBA as a programming language.	25%	✓	✓	✓
2.	Manipulate common Excel objects such as ranges, workbooks, and worksheets using VBA programs.	25%	✓	✓	✓
3.	Create Excel user forms for simple tasks (such as forms embedded with OK and Cancel buttons) and complex tasks (such as selecting multiple items from a Listbox control).	25%	✓	✓	✓
4.	Design and develop Excel reporting applications	25%	✓	✓	✓
		100%			

* If weighting is assigned to CILOs, they should add up to 100%.

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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			
Lectures	Lecturer explains the programming logic and demonstrates VBA programming syntax.	✓	✓	✓	✓			
In-class activities	In order to reinforce the logic and syntax taught, students are asked to create VBA programs for	✓	✓	✓	✓			

	<p>simple but realistic business problems in class individually. Feedback is given by the lecturer in class. Through these in-class exercises, the lecturer can identify the common problems that the students have and give more elaboration as needed. The students can also identify the kinds of mistakes that they have made and learn how to correct them.</p>							
Out-of-class assignments	<p>A key to successful computer programming is to come up with a logical solution for a complex realistic problem and then turn the solution into a useable VBA program. This is a time consuming process which it is not possible to do in class. Students tackle these complex business-related problems as out-of-class assignments. The students may work in small groups for these assignments so that they can discuss the problems, come up a solution, and create the program together.</p>	✓	✓	✓	✓			
Project	<p>The ultimate aim of the course is to provide students with the specialist knowledge and training to create a report support system. Students are asked to develop one such innovation for a problem they have encountered in other modules or for a scenario specified by the lecturer. This is a semester-long activity. The students are asked to submit a plan in the early part of the semester so that the problem can be identified, and the proposed solution to the problem verified by the lecturer. The students need to make use of everything they have learned in this course in order to create the program. They are encouraged to form small groups for the project so that they can analyze the problems and create the program together. They can always seek help and advice from the lecturer during the semester.</p>	✓	✓	✓	✓			

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: <u>100</u> %							
Assignment, pop quiz, test	✓	✓	✓	✓		35%	The exact weighting for each component shall be determined by the course examiner and to be announced to students at the beginning of the course.
Project	✓	✓	✓	✓		65%	
Examination: <u>0</u> % (duration: _____, if applicable)							
* The weightings should add up to 100%.						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)
Assignment, pop quiz, test, and project	Scores shall be awarded for each assessment task and project.	Demonstrated excellent ability to develop macros and report support system using all EXCEL VBA learned in lectures.	Demonstrated good ability to develop macros and report support system using all EXCEL VBA learned in lectures.	Demonstrated moderate ability to develop macros and report support system using all EXCEL VBA learned in lectures.	Demonstrated basic ability to develop macros and report support system using all EXCEL VBA learned in lectures.	Failed to demonstrate ability to develop macros and report support system using EXCEL VBA learned in lectures.

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.)

1. Programming with Excel VBA

Basic programming syntax; Alternative selection structure; Repetition structures; VBA functions

2. Excel UserForm

Create and manipulate UserForm controls in Excel.

3. Working with Excel objects

Workbooks object; Worksheets object; Range object; Chart object; Pivot Table object; Analysis ToolPak; Worksheet functions.

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.	VBA for Modelers, Developing Decision Support Systems with Microsoft Excel, 5th edition, S. Christian Albright. South-Western, 2016
----	---

2.2 Additional Readings

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

1.	Excel 2016 Power Programming with VBA, Michael Alexander, John Walkenbach, Richard Kusleika, John Wiley & Sons, 2016.
2.	Excel 2016 VBA and Macros, Bill Jelen and Tracy Syrstad, QUE, 2015.
3.	Microsoft Excel VBA Programming for the Absolute Beginner, Duane Birnbaum, Course Technology, 2007.
4.	Microsoft Excel 2016 Programming by Example: with VBA, XML, and ASP, Julitta Korol. Mercury Learning & Information, 2014.
5.	Programming with Microsoft Visual Basic 2015, Diane Zak, Cengage Learning.
6.	All of Programming, Andrew Hilton, Anne Bracy, Google Play Books, 2015.