ISOM3230: Business Applications Programming

(Mixed Mode Lite – limited interactions with online students)

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Course goals

This course will provide students with skills and knowledge of business applications programming and experience in designing and developing business applications.

Learning outcomes

By the end of this course, students will be able to:

1. Apply programming concepts to solve business problems
2. Describe the logic and flows of given programs
3. Predict the output of a program
4. Write programs with common programming practices
5. Identify and fix logical and runtime errors in programs

Course description

This course is designed to train students to understand programming, in particular business applications programming. Students will learn why we need to use programming in their professions and why they build business applications, how business applications influence business workflows, how programming could be more beneficial and useful in business applications, and so on. Students will learn basic programming syntax and structure, and how to build basic business applications using high-level programming languages.

This is a programming course. Students are expected to learn from online materials by themselves. In the course, students are required to Google VBA syntax that may not be covered in course materials but are required for performing course tasks, e.g., assignments.

Types of Students and Teaching Mode

In-HK students: Those in-HK students who are physically in Hong Kong are expected to attend classes, in-class exercises, and the final exam **in person**. Those students are **NOT allowed** to access our Zoom meeting unless special approval is granted.

Not-in-HK students: Those not-in-HK students who have been approved by ARRO are allowed to attend classes online using Zoom.

Teaching Mode: **Mixed Mode Lite with Active Learning**

- Both groups of students are required to attend classes either in person or online using Zoom.
- Class recordings will be uploaded to Canvas when they become available (usually take less than 24 hours).
- There is no class attendance requirement in this course.
- **Final exam**: In-HK students are required to attend a physical final exam. There will be no different exam arrangements for in-HK students. Not-in-HK students will have a take-home final exam, which has different questions than those in the physical final exam. The take-home exam and physical final exam are of equivalent difficulty levels.
- For the Mixed Mode Lite teaching mode, there will be **limited interactions** between the course instructor and not-in-HK students. The course instructor will check messages in the chatroom once or twice during the class and **may NOT be able to reply to all messages**.
- **Active learning**: There will be many in-class activities, including in-class exercises in this course, and students are required to work on tasks together during the class. This helps students learn the topics more effectively.

Assessment scheme

An inevitable part of this end of any university course is the evaluation and the grade. In any course, the most important evaluation is a student's self-evaluation. How many new and useful ideas and skills did students learn from the course? Has the course changed student views about themselves, workgroups, and organizations? If so, student efforts here will have paid off. The student's course goals will be assessed in the following manner, and the percentage of grade may be broken down as below:

Components	Learning outcomes assessed	Percentage of the grade
A. Assignment (x2)	1, 2, 3, 4, 5	**30%**
B. In-class exercise (x3) (Individual)	1, 2, 3, 4, 5	**30%**
C. Final Exam	1, 2, 3, 4, 5	**40%**
TOTAL:		**100%**

A. Assignment (30%) (Individual and Group)

The objectives of the assignment are to analyze business problems and resolve these problems using VBA. There are **TWO** assignments, namely assignment 1, and assignment 2. The details of the assignment will be announced later in the course.

Assignment 1 (Individual) - (15%)
This is an individual assignment. Each student needs to write a VBA program to meet ALL requirements set out in the assignment.

Assignment 2 (Group) - (15%)
This is a group assignment. A pre-assigned group (the group size is 4-6 students) is required to write a VBA program to meet ALL requirements set out in the assignment. Student groups are required to make a video presentation (not more than 10 minutes).

(**Warning**: Peer evaluation will be conducted after the deadline. Students should make sure they make a fair contribution to the submitted assignment. An independent judgment is applied to review each case, and an appeal on the decision is **NOT** allowed.)

B. In-class Exercise (30%) (Individual)

There are **THREE** in-class exercises throughout the semester, and they are all individual exercises. Students are expected to apply their VBA programming skills and knowledge to solve business problems in the class. **By the end of the class, student's answers will be collected and graded**. Deductions resulting from mistakes and the use of VBA will be made at the discretion of the grader. So, each student will have THREE in-class exercise scores, but only the **BEST TWO scores** will be counted toward the final grade. **There will be NO makeup in-class exercises for whatever reasons**.

During the in-class exercise session, all students are required to comply with the following guidelines and requirements. Some are for students joining the class via Zoom. Fail to do so will result in a mark deduction penalty, e.g., 10% reduction in the marks.

- Attend the entire lecture (arriving late and leaving early are not acceptable)
- (Zoom only) Set the display name as follows (e.g., **James (jkwok-20202020**)
- (Zoom only) Turn on the camera at all times and make sure we can see your face clearly
- Submit your work/answer to Canvas (or via email) before the submission deadline

Note: It is the student's responsibility to ensure his/her MS Excel (Win version) work during in-class Exercises.

Late submission (our time stamp ONLY): Any late submission will result in ZERO marks. Students may submit to Canvas or by email to both instructor and TA.

C. Final Exam (40%)

There is a Final Exam, which covers **ALL topics** taught in the semester. Further information will be provided in the last class.

Grade appeal

All scores will be uploaded to Canvas when ready. It is the student's responsibility to check their scores and make sure they are correct. Any score appeal must be filed through email to jkwok@ust.hk. No score appeal shall be allowed after a checking/appeal period (e.g., 36 hours after a score is released) if applicable.

[If a student cannot come to check his/her paper during the checking period, the student's score will be finalized by default. I am afraid we will not change/correct his/her score after the checking/appeal period.]

Student learning resources

Text and Reference Books

There are no specific textbooks and reference books required for this course. We will use assorted readings posted on Canvas.

Course Website
Updates of the course contents and other information will be posted on the course website - http://canvas.ust.hk/. Students are advised to check this site regularly throughout the semester.

Software requirements

- MS Excel 365 (Windows) or MS Excel 2019 (Windows)

Note: **Mac users are required to use MS Excel (Windows version) during the class.**

Course schedule

The course is offered in lecture session and laboratory session.

L1	Wednesday, Friday	13:30-14:50
LA1	Monday	18:00-18:50
LA2	Friday	15:00-15:50

Tentative Course Schedule. Please visit Canvas for updated schedule, readings, and assignments.

Schedule of Lecture (Tentative)

Wk.	Date	No.	Lecture	Assignment Due/Remark
1	1-Sep	L01a	Intro. to Course	
	3-Sep	L01b	Intro. to Programming, Macro Recording	
2	8-Sep	L02a	Intro. to Business Applications	
	10-Sep	L02b	[Practice] Business Applications	Add/Drop deadline: **14 Sep**
3	15-Sep	L03a	Variables and IO	Asg. 1 Release on 1**7 Sep**
	17-Sep	L03b	OOP, Workbooks, and Worksheets	
4	22-Sep		Public Holiday	
	24-Sep	L04a	Ranges	
5	29-Sep	L04b	Ranges	
	1-Oct		Public Holiday	
6	6-Oct	L05a	Workbooks, Worksheets, and Ranges	

	8-Oct	L05b	If-then-else and select-case	
7	13-Oct	L06a	[In-class Exercise 1]	Asg. 1 Due on **15 Oct**
	15-Oct	L06b	Looping 1	
8	20-Oct	L07a	Looping 2	
	22-Oct	L07b	Methods 1	
9	27-Oct	L08a	Methods 2	
	29-Oct	L08b	Arrays 1	Asg. 2 Release on 2**9 Oct**
10	3-Nov	L09a	Arrays 2	
	5-Nov	L09b	Userform	
11	10-Nov	L10a	[In-class Exercise 2]	
	12-Nov	L10b	Business Applications 1	
12	17-Nov	L11a	Business Applications 2	
	19-Nov	L11b	[In-class Exercise 3]	
13	24-Nov	L12a	Formula Implementation	Asg. 2 Due on **24 Nov**
	26-Nov	L12b	Revision	

Schedule of Laboratory LA1, LA2 (Tentative)

Wk.	Date(LA1)	Date(LA2)	No.	Topics
1	06-Sep	03-Sep	LA 1	Intro to Excel (Win and Mac)/Marco Recording
2	13-Sep	10-Sep	LA 2	Basic VBA program
3	20-Sep	17-Sep	LA 3	Variables, Data, Buttons, and IO
4	27-Sep	24-Sep	LA 4	Workbooks and Worksheets
5	11-Oct	08-Oct	LA 5	Ranges
6	18-Oct	15-Oct	LA 6	If-then-else and select-case
7	25-Oct	22-Oct	LA 7	Looping
8	01-Nov	29-Oct	LA 8	Methods
9	08-Nov	05-Nov	LA 9	Arrays
10	15-Nov	12-Nov	LA 10	Userform
11	22-Nov	19-Nov	LA 11	Business Applications
12	29-Nov	26-Nov	LA 12	Formula Implementation

Policies for using ZOOM

For those students who join the class via ZOOM, they are required to comply with the policies.

- A Zoom meeting ID is already released on Canvas
- Login Zoom with your HKUST Email
- Students are required to install Zoom before coming to the class
- Students must enter their display names as the first name, ITSC account name, and student ID. (e.g., **James (jkwok-20202020)**). When groups are formed, students must display their group numbers. (e.g., **James (jkwok-20202020), Group 1**)
- **Students will be given a unique meeting password after add/drop period. A separate email will be sent to individual students regarding the unique meeting password of the lecture**
- We will reserve the right to remove any student from the meeting if the student does not follow the rules.

Teaching staff contact details

Prof. Kwok's office is LSK 4080, 4th floor. Students are more than welcome to drop by any time with any of their questions. For any urgent matters, students may contact Prof. Kwok by phone (2358-7652), but the best way is by email. Prof. Kwok will check email frequently. Our Teaching Assistants (TA) for this course will be available for any questions regarding subject materials. Our TA is also responsible for grading and other administrative formalities.

Academic honesty

Academic integrity is a critical value of the university community. Integrity violations destroy the fabric of a learning community and the spirit of inquiry that is vital to the effectiveness of the University. Prof. Kwok has no tolerance for cheating and there are no acceptable excuses. Anyone caught cheating, plagiarizing, and any other form of academic dishonesty will have their course grade lowered by at least one letter grade. In addition, Prof. Kwok is bound to report any unethical behavior or evidence of dishonesty in this course to the University. Please remember the current university rule: "If a student is discovered cheating however minor the offense, the course grade will appear on the student's record with an X, to show that the grade resulted from cheating. This X grade stays on the record until graduation. If the student cheats again and "earns" another X grade, the student will be dismissed from the University." Plagiarism is copying anything (text or ideas) from another source without citing that source. If students use another person's idea, students must cite it, even if students rewrite the idea in their own words. Extreme care must be taken to avoid the passing of other's work as one's own. Students are required to provide appropriate citations when students use ideas and arguments or otherwise draw on others' work. If students use research from another source or the Web students MUST cite the source. This is true even if students use only the general idea and not the exact words.

Learning environment

Prof. Kwok welcomes feedbacks on his teaching throughout the semester. Students are encouraged to contact Prof. Kwok or our TA any time students have any questions, suggestions, concerns, or would like to ask for advice. After student groups are formed, Prof. Kwok will ask for one volunteer from each group (optional) to serve on the student feedback committee. The purpose of this committee is to act as a feedback channel for Prof. Kwok to improve his teaching and enhance student's learning experience. Prof. Kwok will meet with this committee to gather their feedback periodically. It would be a good opportunity if students wish to take a more active role in class management rather than waiting to submit their comments after the course is over.