ISOM3230: Business Applications Programming

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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.

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**.

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. Failure to comply with the stated submission rules will result in 30%-mark reduction.

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.

There will be **no make-up exams** except due to extraordinary circumstances beyond student's control such as medical emergencies. In case of absence due to medical emergencies, students have to submit appropriate documentation issued by a registered medical practitioner to the course instructor by email in order to be considered for a possible make-up exam. The make-up exam will be in essay format.

(**Warning**: Students who are allowed to take the make-up exam need to write up a research article that is composed of introduction, proposed methods, experiments and findings, references, proper citation, and other sections. The article needs to be completed **within 8 hours** after it has been assigned. There is **NO SECOND CHANCE** for make-up exam for whatever reasons provided by the students. Fail to submit the research article for whatever any reasons, including email problems, and no internet problems will result in a **ZERO** mark for the exam.)

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:   Tuesday and Thursday 1:30pm – 2:50pm, 07-Feb – 09-May
        Venue: Room 2502, Lift 25-26

LA1:   Friday 10:30am – 11:20am
        Venue: Room G021, LSK Bldg

LA2:   Friday 4:30pm – 5:20pm
        Venue: Room G021, LSK Bldg

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

Schedule of Lecture (Tentative)

Wk.	Date	No.	Lecture	Assignment Due/Remark
1	7-Fep	L01a	Intro. to Course, Intro. to Programming	
	9-Feb	L01b	Intro. to Business Applications	
2	14-Feb	L02a	Practice: Business Applications	Add/Drop deadline: **16 Feb**
	16-Feb	L02b	Macro Recording	
3	21-Feb	L03a	Variables and IO	
	23-Feb	L03b	OOP, Workbooks, and Worksheets	
4	28-Feb	L04a	Ranges	
	2-Mar	L04b	Ranges	
5	7-Mar	L05a	If-then-else and select-case 1	
	9-Mar	L05b	If-then-else and select-case 2	
6	14-Mar	L06a	[In-class Exercise 1]	Asg. 1 Release on **16 Mar**
	16-Mar	L06b	Looping 1	
7	21-Mar	L07a	Looping 2	
	23-Mar	L07b	Methods 1	
8	28-Mar	L08a	Methods 2	Asg. 1 Due on **29 Mar**
	30-Mar	L08b	Methods 3 + Business Application	
9	4-Apr	L09a	Userform	Asg. 2 Release on **4 Apr**
	6-Apr		No class: Mid-Term Break	
	11-Apr		No class: Mid-Term Break	
	13-Apr	L09b	[In-class Exercise 2]	
10	18-Apr	L10a	Business Application 1	
	20-Apr	L10b	Business Application 2	
11	25-Apr	L11a	[In-class Exercise 3]	
	27-Apr	L11b	Formula Implementation	
12	2-May	L12a	Business Applications 3	Asg. 2 Due on **3 May**
	4-May	L12b	Asg. 2 Presentation	
13	9-May	L13a	Revision	

Schedule of Laboratory LA1, LA2 (Tentative)

Wk.	LA1, LA2	No.	Topics
1	10-Feb	LA01	Intro to Excel (Win and Mac)/Marco Recording
2	17-Feb	LA02	Basic VBA program
3	24-Feb	LA03	Variables, Data, Buttons, and IO
4	3-Mar	LA04	Workbooks and Worksheets
5	10-Mar	LA05	Ranges
6	17-Mar	LA06	If-then-else and select-case
7	24-Mar	LA07	Looping
8	31-Mar	LA08	Methods
9	7-Apr	No class: Mid-Term Break (Good Friday)	
9	14-Apr	LA09	Userform
10	21-Apr	LA10	Business Applications
11	28-Apr	LA11	Business Applications
12	5-May	LA12	Business Applications

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 Assistant (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.