ISOM3230: Business Applications Programming [3-0-1:3]

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

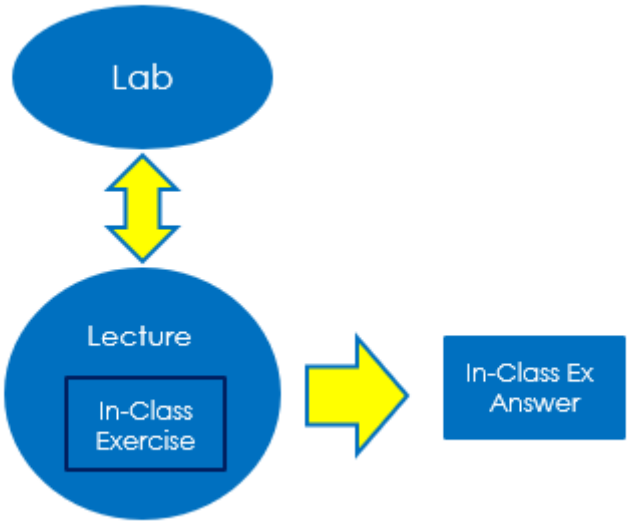
Course description

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 required for performing course tasks, e.g., assignment.

Teaching approach

In this course, students will learn the concept, knowledge and skills through lecture before applying them in the In-class exercises and labs. In-class exercises and Labs are used for practicing programming skills with questions and exercises. The following is the study pattern for one week of study.



In general, the teaching approach of this course is based on the notion of sustained, deep learning by applying knowledge through programming, hands-on practices, and assignments. Lecture sessions are also structured to engage the students in learning proactively (pre-readings, pre-class assignments), actively (in-class exercises of programming and in-class discussion of business applications) and reflectively (in-class discussion of personal views through the answers of in-class exercises). The individual assignment and the group assignment are there to deepen student's learning through knowledge application while at the same time providing students with opportunities to develop essential workplace skills such as critical thinking, written and oral communications, team work, and lifelong learning.

Teaching & Learning Activities	**Roles in the Course**	**Course Learning Outcomes addressed**
Lecture	Explain key concepts to students using an active learning approach, forum discussion, in-class exercise, and after-class discussion of questions.	1, 2, 3, 4, 5
Laboratory	Apply concepts presented in lectures to hands-on exercises.	1, 2, 3, 4, 5
Assignment	It requires students to apply their understanding in programming to solve business problems.	1, 2, 3, 4, 5

Assessment scheme

An inevitable part of this end of any university course is the evaluation, and the grade. Actually, 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, work groups 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 goals assessed	Percentage of the grade
A. Final Exam	1, 2, 3, 4, 5	46%
B. Assignment	1, 2, 3, 4, 5	40%
C. In-class Exercise	1, 2, 3, 4, 5	14%
TOTAL:		**100%**

A. Final Exam (46%) (Individual)

All course materials, including assigned readings, lecture notes, and exercises are subject to the examination.

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 must submit appropriate documentation issued by a registered medical practitioner to the course instructor by email to be considered for a possible make-up exam.

(**Warning**: The make-up exam will be in essay format. Students who can take the make-up exam need to write up a **research article** that is composed of introduction, references, proper citation, and other sections. The article needs to be completed **within 48 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.)

B. Assignment (40%) (Individual and Group)

The objectives of assignment are to analyze business problems and resolve these problems using VBA. The details of the assignment will be announced later in the course.

Assignment 1 (Individual) - (20%)
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) - (20%)
This is a group assignment. A pre-assigned group is required to write a VBA program to meet ALL requirements set out in the assignment. Students will also be required to make a video and PowerPoint presentation.

(**Warning**: Peer evaluation will be conducted when needed. Students should make sure they make a fair amount of contributions to the submitted assignment. An independent judgement is applied to review each case, and an appeal is **NOT** allowed.)

C. In-class Exercise (14%) (Individual and Group)

In-class exercises will be arranged for students almost every week. The primary purpose of in-class exercise is to enable students to verify what they learned from lecture. **There will be NO makeup in-class exercise**. The **best 7 scores** out of 9 will be counted towards your in-class exercise scores. In-class exercise should be submitted within 24 hours after class.

WARNING:

A peer evaluation will be conducted after each in-class exercise. The student's final scores are mainly derived from the results of peer evaluation. The course instructor will apply subjective judgement to review the peer evaluation submitted by students within the same group to determine a student's final score.

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 appeal to score has to be filed through email to jkwok@ust.hk. No appeal to a particular score shall be allowed after a checking period (e.g., 72 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 appeal period.]

Student learning resources

Text and Reference Books

There is 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.

Course schedule

The course is offered in lecture session and laboratory session.

L1	Wednesday & Friday	13:30-14:50	(Zoom: 973 7518 4619)
LA1	Tuesday	10:30-11:20	(Zoom: 917 2279 0861)
LA2	Tuesday	09:00-09:50	(Zoom: 986 6400 2543)

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

Schedule of Lecture (Tentative)

Wk.	Date	Lecture	Assignment Due/Remark
1	09-Sep	**[Lecture]** Intro. to Course	
	11-Sep	**[Lecture]** Intro. to Programming, Macro Recording	
2	16-Sep	**[Lecture]** Intro. to Business Applications	
	18-Sep	**[Practice]** Business Applications	Add/Drop deadline: **19-Sep**
3	23-Sep	**[Lecture]** Variables and IO	
	25-Sep	**[In-class Exercise 1]** Variables and IO	
4	30-Sep	**[Lecture]** OOP, Workbooks and Worksheets	Asg. 1 Release on **30-Sep**
	02-Oct	**Public Holiday**	
5	07-Oct	**[Lecture]** Ranges	
	09-Oct	**[In-class Exercise 2]** Workbooks, Worksheets and Ranges	
6	14-Oct	**[Lecture]** If-then-else and select-case	
	16-Oct	**[In-class Exercise 3]** If-then-else and select-case	
7	21-Oct	**[Lecture]** Looping	
	23-Oct	**[In-class Exercise 4]** Looping	
8	28-Oct	**[Lecture]** Methods	Asg. 1 Due on **27-Oct at 8:30**
	30-Oct	**[In-class Exercise 5]** Methods	
9	04-Nov	**[Lecture]** Arrays	
	06-Nov	**[In-class Exercise 6]** Arrays	Asg. 2 Release on **6-Nov**
10	11-Nov	**[Lecture]** Userform	
	13-Nov	**[In-class Exercise 7]** Userform	
11	18-Nov	**[Lecture]** Business Applications 1	
	20-Nov	**[In-class Exercise 8]** Business Applications 1	
12	25-Nov	**[Lecture]** Formula Implementation	
	27-Nov	**[In-class Exercise 9]** Formula Implementation	Asg. 2 Due on **28-Nov**
13	02-Dec	**[Lecture]** Business Applications 2	
	04-Dec	**Revision**	

Schedule of Laboratory LA1, LA2 (Tentative)

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

Policies for using ZOOM

This course provides online class via ZOOM. Here are the policies for using ZOOM.

- A Zoom meeting ID has already been 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 first name, ITSC account name and student ID. (e.g., **James (jkwok-20202020)**). When groups are formed, students must also display their group number as well. (e.g. **James (jkwok-20202020), Group 1**)
- **Students must only attend their own assigned lecture and lab session. L1 students can only join L1 lecture, same goes to L2.**
- **Students will be given a unique meeting password. A separate email will be sent to individual students regarding the unique meeting password of the lectures**
- We will reserve the rights to remove you from meeting if the above rules are not complied by students.

Teaching staff contact details

My office is in room LSK4080, 4th floor. You are more than welcome to drop by during office hours or any time with any question you may have. For more urgent matters, you may contact me by email (jkwok@ust.hk) or by phone (2358-7652), but the best way is email. I check my email frequently. Teaching Assistant (TA) of this course is available for any questions regarding grading, attendance, case study 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 absolutely 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 offence, 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 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 from 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.