

## **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:

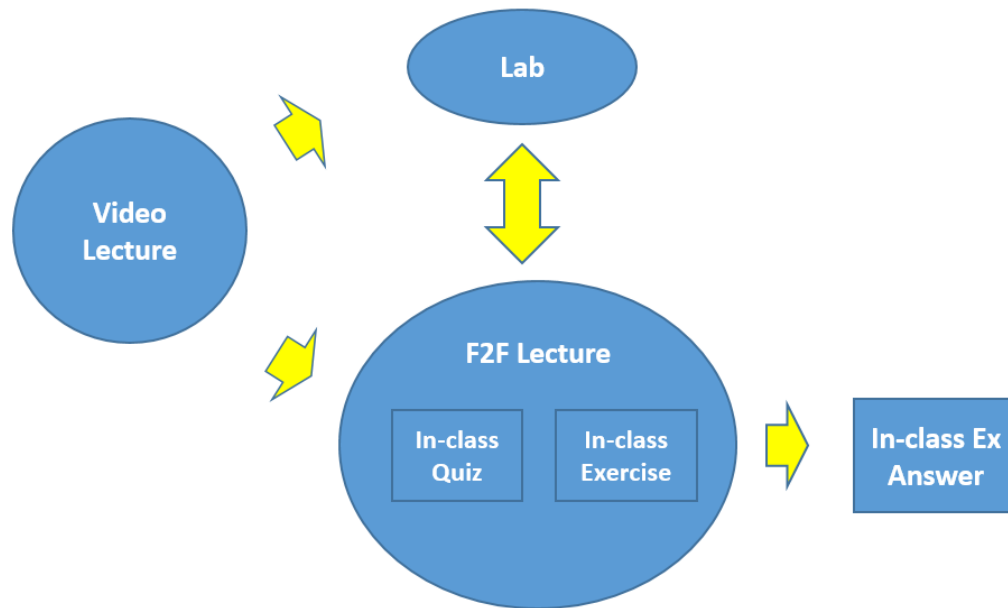
1. Apply programming concepts to solve business problems
2. Describe the logic and flows of given programs
3. Predict the output of a program
4. Write programs with common programming practices
5. Identify and fix logical and runtime errors in programs

### **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.

### **Teaching approach**

This is a blended learning course, which applies the basic concepts of flipped-classroom model. In this course, students are required to watch video lecture before applying the knowledge and skills acquired from the video lecture in the lecture and lab. After watching video lecture, students are required to answer Quiz questions in class. This will ensure students to possess sufficient knowledge and skill for in-class exercises and lab works. Lectures 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, and pre-class video lectures), 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
<b>Lecture</b>	Explain key concepts to students using an active learning approach, video lecture, forum discussion, in-class exercise, and after-class discussion of questions.	1, 2, 3, 4, 5
<b>Laboratory</b>	Apply concepts presented in video lectures to hands-on exercises.	1, 2, 3, 4, 5
<b>Assignment</b>	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	53%
B. Assignment	1, 2, 3, 4, 5	40%
C. In-class Quiz (1% each)	1, 2, 3, 4, 5	7%
<b>TOTAL:</b>		<b>100%</b>

### A. Final Exam (53%)

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 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, 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%)

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.

(**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 Quiz (7%)

Every week, students are required to watch a set of videos about the topics to be covered by lecture. In-class quizzes will be arranged for students almost every week. The primary purpose of in-class quiz is to enable students to verify what they learned from video lecture. Only the BEST 7 results of in-class quizzes will be counted toward the overall grade. **There will be NO makeup in-class quizzes.**

### 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](mailto: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 text books 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	Friday	15:00-16:20	RM5620
L2	Friday	13:30-14:50	RM5620
LA1	Tuesday	16:30-17:20	LSK G021
LA2	Tuesday	15:00-15:50	LSK G021
LA3	Tuesday	13:30-14:20	LSK G021
LA4	Wednesday	16:30-17:20	LSK G021

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

**Schedule of Lecture (Tentative)**

Wk.	Date	Lecture	Video (to be released after Lecture)	Assignment Due/Remark
1	6-Sep	[Lecture] Intro. to Course and programming	[Video] Getting started with VBA	
2	13-Sep	[In-class Exercise] Getting Started with VBA	[Video] Types of Error, Buttons and Shortcut Keys, Basics, IO	
3	20-Sep	[In-class Quiz + In-class Exercise] Types of Error, Buttons and Shortcut Keys, Basics, IO	[Video] Excel Objects - Workbooks and Worksheets	Add/Drop deadline: 16 Sep
4	27-Sep	[In-class Quiz + In-class Exercise] Excel Objects - Workbooks and Worksheets	[Video] Ranges	
5	4-Oct	[In-class Quiz + In-class Exercise] Ranges	[Video] Data - Variable, Constant	
6	11-Oct	[In-class Quiz + In-class Exercise] Data - Variable, Constant	[Video] Control Logic	Asg. 1 Release
7	18-Oct	[In-class Quiz + In-class Exercise] Control Logic	[Video] Looping	
8	25-Oct	[In-class Quiz + In-class Exercise] Looping	[Video] Arrays	
9	1-Nov	[In-class Quiz + In-class Exercise] Arrays	[Video] Methods	Asg. 1 Due Asg. 2 Release
10	8-Nov	[In-class Quiz + In-class Exercise] Methods	[Video] Userform	
11	15-Nov	[In-class Quiz + In-class Exercise] Userform	[Video] Business Applications	

12	22-Nov	[In-class Quiz + In-class Exercise] Business Applications		
13	29-Nov	Revision		Asg. 2 Due

**Schedule of Laboratory LA1, LA2, LA3 (Tentative)**

Wk.	Date	No.	Topics
1	3-Sep		<b>No Lab</b>
2	10-Sep	LA 1	First VBA Program
3	17-Sep	LA 2	Getting started with VBA & Macro Recorder
4	24-Sep	LA 3	Types of Errors, Buttons and Shortcut Keys, Basics, IO
5	1-Oct		<b>Public Holiday</b>
6	8-Oct	LA 4+5	Excel Objects - Workbooks and Worksheets + Ranges
7	15-Oct	LA 6	Data – Variable, Constant
8	22-Oct	LA 7	Control Logic
9	29-Oct	LA 8	Looping
10	5-Nov	LA 9	Arrays
11	12-Nov	LA 10	Methods
12	19-Nov	LA 11	Userform
13	26-Nov	LA 12	Business Applications

**Schedule of Laboratory LA4 (Tentative)**

Wk.	Date	No.	Topics
1	4-Sep		<b>No Lab</b>
2	11-Sep	LA 1	First VBA Program
3	18-Sep	LA 2	Getting started with VBA & Macro Recorder
4	25-Sep	LA 3	Types of Errors, Buttons and Shortcut Keys, Basics, IO
5	2-Oct	LA 4	Excel Objects - Workbooks and Worksheets
6	9-Oct	LA 5	Ranges
7	16-Oct	LA 6	Data – Variable, Constant
8	23-Oct	LA 7	Control Logic
9	30-Oct	LA 8	Looping
10	6-Nov	LA 9	Arrays
11	13-Nov	LA 10	Methods
12	20-Nov	LA 11	Userform
13	27-Nov	LA 12	Business Applications

**Teaching staff contact details**

Prof. Kwok's office is in 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 email. Prof. Kwok will check email frequently. Our Teaching Assistants (TA) for this course is Bosco TAM, he will be available for any questions regarding subject materials. They are 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 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.