

University of Alberta
Alberta School of Business
Department of Accounting and Business Analytics

OM 471/671 Decision Support Systems – Fall 2021

Instructor: Maryam Zakeri

Email: zakeriho@ualberta.ca

Office: Remote (via Zoom)

Office hours: 11 AM – 1 PM on Thursdays, or by appointment. For in person appointments, email me.

COURSE DESCRIPTION:

The course focuses on the creation of decision support systems using Microsoft Excel-based spreadsheet models and the associated macro programming language, Visual Basic for Applications (VBA). Students will learn how to create Excel-based applications to aid managers in making decisions based on data and analytics. These applications will have graphical user interfaces, appropriate models in the spreadsheet or in the background, and output reports. Fundamentals of VBA, such as the Excel object model, variables, control logic and loops, subroutines and function subroutines, and user forms will be introduced.

Prior programming experience is not assumed. Student projects in this implementation-oriented course will come from different areas such as forecasting, regression, supply chain network design, employee scheduling, and portfolio optimization.

COURSE INFORMATION:

Lectures:

There will be no classes on:

- Monday, September 6th - Labour Day
- Monday, October 11th -Thanksgiving Day
- Monday, November 8th and Wednesday November 10th - Fall Term Reading Week

IMPORTANT INFORMATION ON HYBRID TEACHING:

The lectures will be delivered in these formats:

- **In person class:** We will have in person classes on Mondays and Wednesdays, from 9:30 AM to 10:50 AM, in Labs BUS B24/B28.
- **On line class:** The remote students can join the class online via Zoom. The zoom links for the classes will be available in eClass.
- **Class recordings:** To support students who are unable to attend synchronous classes due to Pandemic impacts, the classes will be recorded and will be available in eClass.

Recordings will capture the computer screen and instructor's voice. When recording, the mic will be positioned to record the instructor's voice. It is not the intent to capture students' voices. However, dialogue of student attendees who are sitting very close to the mic may be picked up by the mic recording.

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In accordance with section 33(c) of the FOIP Act, the recording will be used to support teaching and learning and may be disclosed to those registered in the course. The recordings will be available until 15 December 2021.

It is important that you inform me of any challenges you have with the learning environment by mid-September.

Recommended Textbook:

- *VBA for Modelers: Developing Decision Support Systems with Microsoft Office Excel*, 5th edition, by S. Christian Albright (South-Western, 2016).

A tentative course plan will be posted on the course eClass page during the first week of classes. We will also cover topics not included in the text mentioned above. Other course materials, including the lecture PowerPoint slides, Excel spreadsheets, and exercises will be posted on the course eClass site at <https://eclass.srv.ualberta.ca/portal/>, and assignments and exams will be posted on the Online Assessment Tool (OAT) at <https://apps.srv.ualberta.ca/bus/oa>. Although these slides and examples will be posted on the course eClass site, students will need to attend and participate in each class in order to keep up with the material presented. The course moves at a very fast pace. If you are having difficulty, please discuss it with me immediately.

Students must check the course eClass site and OAT periodically for announcements and to access posted materials.

Software:

- MS Excel for Windows.

- *MS Powerpoint* and a pdf viewer, such as *Adobe Reader*.

There are significant differences between VBA for MS Excel for Windows and VBA for MS Excel for other operating systems (for example, macOS for Mac computers). The course material is designed for VBA for MS Excel for Windows. Therefore, students using operating systems other than Windows will be required to use Lab Connect "remote access service" (labconnect.ualberta.ca) by installing a client software (VMware Horizons). Instructions on how to access this service are provided at:

https://uofaprod.service-now.com/kb_view.do?sysparm_article=KB0012945

Students using Windows computers do not need to use this service.

Quiz:

The quizzes will be held in person in the class on Wednesday, 13 October 2021 and Wednesday, 1 December 2021. Students who are unable to attend the quiz in person due to pandemic impacts, should contact me.

EVALUATION:

The course mark will be based on:

ASSESSMENT	WEIGHT	COMMENTS
QUIZ 1	20%	Open-book exam
QUIZ 2	20%	Open-book exam
ASSIGNMENTS	30%	
GROUP PROJECT	30%	
TOTAL	100%	

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The course mark will be based on four components: *Assignments* (there will be 6-7 of these), *Quiz 1*, *Quiz 2*, and *Group Project*. The course mark will be calculated using the Assignment Mark (0-100), Quiz 1 Mark (0-100), Quiz 2 Mark (0-100), and Group Project Mark (0-100). It will be calculated as follows: $0.30 \times (\text{Assignment Mark}) + 0.20 \times (\text{Quiz 1 Mark}) + 0.20 \times (\text{Quiz 2 Mark}) + 0.30 \times (\text{Group Project Mark})$.

- **Quiz 1:** Open-book exam on Wednesday, 13 October.

- **Quiz 2:** Open-book exam on Wednesday, 1 December.

- **Group project:** Project application files are due at 11:59 PM on Thursday 16 December. Peer evaluation forms are due at 11:59 PM on Friday 17 December.

Marking criteria: The primary marking criteria we will use to mark quiz and assignment questions are as follows: (1) whether the application obtains the appropriate inputs, performs the required tasks, and produces the appropriate outputs, (2) efficiency of the code, and (3) the design and functionality of the parts of the application and the application as a whole.

Group project: Students are required to form *groups of four students* for the group project. Students are responsible for forming their own groups and notify the instructor by the specified date (details will be announced during lectures and on eClass).

Group formations submitted by the students are *recommendations*; the instructor has the final say in group formations and may make changes in the groups. Students who have not formed groups by the specified date will be assigned to a group by the instructor. Due to the class size, it might not be possible to have four students in all groups.

As a part of the group project, you are *required* to submit peer evaluations, where you evaluate the performance of the members of your group. The group project mark of an individual may be adjusted up or down relative to the average mark of the group, based on peer evaluations and instructor's observations. A penalty will be applied to the group project mark of students who have not submitted peer evaluations before the deadline.

STUDENT LEARNING OUTCOMES:

At the conclusion of this course, you will have developed the following skills or knowledge:

- Algorithmic thinking
- Development and implementation of VBA codes
- Troubleshooting spreadsheet models with VBA codes created by yourself or others
- Know how to use multicriteria decision making tools

This course incorporates the Learning Goals of the BCom Program, in particular critical thinking, teamwork, quantitative skills, and written communications. For complete descriptions of the Learning Goals of the BCom program, see <http://business.ualberta.ca/programs/bachelor-of-commerce/prospective-students/about/learning-goals>.

OTHER TOPICS:

Policy about course outlines can be found in Section 23.4(2) of the University Calendar.

Students who require accommodations in this course due to a disability affecting mobility, vision, hearing, learning, or mental or physical health are advised to discuss their needs with Specialized Support and Disability Services (SSDS), 2-800 Students' Union Building, 492-3381 (phone) or 492-7269 (TTY).

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves

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with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Audio or video recording of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Recorded material is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the instructor.

All assignments (except for the group activities) are to be completed individually. However, I recognize the value of studying together and comparing notes when working on assignments. To help you judge what I consider acceptable and non-acceptable collaboration, consider the following:

Do's:

- Discuss the course material with other students.
- Ask classmates for help when you are stumped.
- Offer help to other students.
- Do your own work!

You should be prepared to explain any program code you submit for assignments, exams, and the project.

Don'ts:

- Use someone else's code without proper attribution.

The best way to avoid using another student's work is to never look at another student's file. If you quote a book, web page, or any other source in your assignment or project files, then you must reference that source.

- After some point, borrowing code becomes unacceptable, even with a reference.

If you are not so sure about what level of copying is acceptable, consult the instructor.

- Copy another student's or group's file. There are no exceptions to this rule!

Copying another student's file for an assignment or another group's file for a project is not acceptable, under any circumstances. It is immaterial whether the copying is done electronically or manually.