



Spreadsheet Modeling and Analytics – Syllabus

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Course Information

Course Number/Section:**OPRE 6332 / HGMT 6335**

Course Title:	Spreadsheet Modeling and Analytics
Term:	FALL 2023
Sections:	501, 502, 001, OW1
Section 501:	Mondays 7:00pm – 9:45pm, JSOM 1.102
Section 502:	Tuesdays 7:00pm – 9:45pm, JSOM 2.722
Section 001:	Wednesdays 4:00pm – 6:45pm, JSOM 2.115
Instructor:	Dr. Kannan Ramanathan

Instructor: Dr. Kannan Ramanathan
Office: Jindal School of Management, 3.622
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Email: kxr087000@utdallas.edu

TA: Sowjanya Nuti
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Virtual Office Hours: Mondays and Tuesdays, 1pm – 2pm
All office hours will be via MS Teams (Scheduling Recommended)

TA: Anusha Kalakota
TA Email: axk220188@utdallas.edu
Virtual Office Hours: Mondays, 1pm – 3pm
All office hours will be via MS Teams (Scheduling Recommended)

Course Description

This course introduces the basic concepts of model building and encourages students to take an analytical view of business decision making. Microsoft Excel (Version 2019, Windows Environment) is used to build models. The course covers concepts in effective spreadsheet design and use, and students acquire knowledge about specific decision-making techniques for business, such as optimization. Students build spreadsheet models to identify choices, formalize trade-offs, specify constraints, perform sensitivity analyses, and analyze the impact of uncertainty. Applications in supply chain management, transportation, marketing, and finance are examined. This is a fun, but demanding, course. Each week, you MUST commit at least three hours to prepare for class, and to complete homework assignments which are a significant part of your grade.



Course Modality and Expectations

Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (including guest lectures and review sessions). Successful participation is defined as consistently adhering to university requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct. Class participation may be one or more of: attending the live session, asking questions during the live session, and meeting with the professor to discuss.

It is expected that the students will read the syllabus in its entirety. There is a quiz on the syllabus. You need to score 100% in this quiz to qualify to take the first quiz. You can take the quiz as many times as you need to. Quiz will be available ONLY for the first 10 days of the semester.

Professional Conduct, Bonus Points, Penalty Points

This course emphasizes not only academic performance but also professional conduct. This means:

- Attendance is mandatory
 - o Attendance will be taken at some point during the class
 - o You are expected to stay for the whole class
 - o 5.0% points of your grade are based on your attendance and active participation
 - o There is a **penalty of 1% point** if you come even **a minute late**
 - o If you have a specific reason for coming late, let me know AHEAD of time
- Bring a printed tent card
 - o Tent card MUST be printed using the template provided on eLearning
 - o Handwritten tent-cards are not acceptable
 - o I will provide your tent card on the first day of class
 - o If you do not come to the first class, or did not get one in the first class, or lose your tent card, print one using the template provided on eLearning
 - o There is a **penalty of 1% point** each time you do not have a printed tent card
- Do NOT use your phone during class (whatever the reason)
 - o There is a **penalty of 2% point** for each such use
- If you schedule an appointment with the TA (in-person/virtual), do not miss it or be late
 - o There is a **penalty of 1% point** if you are late or fail to attend the meeting, without a day's prior notice
- You can schedule and re-schedule your quiz as many times as you want on the specified days
- But: there is a **penalty of 10% points** if your quiz/exam needs to be re-scheduled outside those days
- After the final grades are uploaded, DO NOT contact the TA or the Professor for changes to your grade without a valid reason
- Emails asking for grade changes will be ignored
- For any meeting with the Professor, you MUST schedule an appointment
- If you include your phone number when you email the Professor, your question may be answered more quickly



- If there is a valid reason, you will be asked to re-take your final – until which time you will get an INCOMPLETE grade
- You have opportunities to earn bonus points (e.g., by answering questions in class)
- These bonus points are awarded at the discretion of the instructor
- There is no limit either on the penalty points or on the bonus points awarded at Professor's discretion

Course Platform

- In person in JSOM 1.102 (Section 501), JSOM 2.722 (Section 502), JSOM 2.115 (Section 001)
- Online Recorded Lectures on eLearning for OW1
- We may have guest lectures via MS Teams

COVID-19 Resources

Students may review [University's COVID-19 resources](#) for information.

Students Learning Objectives/Outcomes

At the conclusion of this course, the student should:

- Be able to identify the conceptual structure of a decision or planning problem
- Understand the logic associated with the components and process of model development
- Assess the significance and limitations of model outputs for appropriate action
- Appreciate the power and limitations of MS Excel in modeling
- Appreciate the potential of management science in addressing management issues

Required Materials

Introduction to Spreadsheet Modeling and Analytics

- by Kannan Ramanathan, **Nineteenth Edition**

- Hardcopy available on WWW.Amazon.Com (for purchase)
- Do NOT use a PDF copy of the textbook – this is illegal
- A copy will be available for reference in the library
- **Questions on tests will be based on the 19th edition**

Office of Student Accessibility

It is the policy and practice of The University of Texas at Dallas to make reasonable accommodation for students with properly documented disabilities. However, written notification from the Office of Student Accessibility (OSA) is required. If you are eligible to receive accommodation and would like to request it for this course, please discuss it with me and allow one-week advance notice. Students who have questions about receiving accommodations, or those who have or think they may have a disability (mobility, sensory, health, psychological, learning, etc.), are invited to contact the Office of Student



Accessibility for a confidential discussion. OSA is in the Administration Building, suite 2.224. They can be reached by phone at 972- 883-2098, or by email at studentaccess@utdallas.edu.

Unless the Office of Student Accessibility has approved the student to record the instruction, students are prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student Accessibility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law.

Technical Requirements

In addition to a confident level of computer and Internet literacy, certain minimum technical requirements must be met to enable a successful learning experience. Please review the important technical requirements on the [Getting Started with eLearning](#) webpage.

Course Access and Navigation

This course can be accessed using your UT Dallas NetID account on the [eLearning](#) website.

Please see the course access and navigation section of the [Getting Started with eLearning](#) webpage for more information. To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#) webpage.

UT Dallas provides eLearning technical support 24 hours a day, 7 days a week. The [eLearning Support Center](#) includes a toll-free telephone number for immediate assistance (1-866-588-3192), email request service, and an online chat service.

Communication

This course utilizes online tools for interaction and communication. Some external communication tools such as regular email and a web conferencing tool may also be used during the semester. For more details, please visit the [Student eLearning Tutorials](#) webpage for video demonstrations on eLearning tools. Note the following.

- 1. Please do not text me on MS Teams**
2. You **MUST** communicate via your UTD email account only
3. Do not use a personal email account (e.g., Gmail, Yahoo, or other), it will not be answered
4. When sending an email, make sure to include the course number, section, and time. For example, OPRE 6332.501, Mondays 7:00PM
5. Do not email the TA and me separately on the same subject
6. Student emails will be answered within 3 working days under normal circumstances



Quizzes

Quizzes		Dates	Time	Cumulative scope of quiz	% Of grade in-class sections	% Of grade online sections	
			(Minutes)				
You are allowed to (and expected to) use Excel for each quiz							
Q1				50 MCQ			Level of difficulty will be higher for each quiz.
	From	Wed Sep 06	60	Chapters 1 to 10 (inclusive)	18%	19%	
	To	Fri Sep 08					
Q2				45 MCQ			
	From	Wed Oct 11	90	Chapters 1 to 18 (inclusive)	25%	27%	
	To	Fri Oct 13					
Q3				40 MCQ			
	From	Mon Dec	120	All Chapters	32%	34%	
	To	Wed Dec 06					
For in-class sections		Three quizzes = 75%. Homework (HW) = 20%. Attendance + Participation = 5% Total = 100%					
For online sections		Three quizzes = 80%. Homework (HW) = 20%. Total = 100%					
You can take the exam anytime during above window when Testing Center can provide a reservation							

Testing Centers

- **Students in in-class sections**
 - **In-class students MUST take the quiz in person at the UTD Testing Center**
 - **You MUST have an advance (72 hours or more) reservation to do so (it is advisable to make reservations for all three quizzes as soon as possible)**
- **Students in online sections**
 - **Online students MUST take the quiz in person at the UTD Testing Center, or another testing center approved by UTD**
See: <https://ets.utdallas.edu/testing-center/students/>
 - **If you are off campus, you can look for a testing center near you**
See below for relevant links

See: <https://ets.utdallas.edu/testing-center/distance-learning/>
<https://dox.utdallas.edu/list15802>

Note that ALL proctored exam applications must be submitted and received by the UT Dallas Testing Center **at least 15 business days** prior to the exam date. The UT Dallas Testing Center will adhere to the 15-business day deadline submission, **no exceptions**.

For questions about remote testing – please contact tcdl@utdallas.edu.

Quizzes 1, 2, and 3 MUST be taken at the UTD Testing Center whenever you can make a reservation on any of the days specified. Note that the UTD Testing Center is not open 24/7. There is no option to take



the quiz remotely or virtually. **If you need to have a make-up quiz (on a date other than those mentioned in the syllabus) for any reason (other than a documented medical reason), there will be a deduction of 10% points. The make-up quiz may be different (in both format and grading criteria) from the scheduled quiz.**

Homework

There are five homework (HW) assignments. Each is worth 4% of your grade.

HW	Topic	Number of Questions	Time
HW1	FINANCE	30	No time limit. <u>BUT</u> only one submission allowed.
HW2	STATISTICS	20	
HW3	DATA TABLE	20	
HW4	OPTIMIZATION	15	
HW5	PIVOT TABLE	20	

Availability of homework assignments and due dates will be announced in class in advance.

PLEASE NOTE:

- YOU **MUST** SUBMIT HOMEWORK ASSIGNMENTS BEFORE THE DEADLINE
 - (SUBMIT MEANS YOU **MUST** HIT THE SUBMIT BUTTON ON ELEARNING.
 - ANSWERING QUESTIONS, BUT NOT SUBMITTING YOUR ANSWERS IS NOT ENOUGH)
- ONLY ONE SUBMISSION IS ALLOWED
- DO NOT SUBMIT ACCIDENTALLY – HOMEWORK WILL **NOT** BE REOPENED
- DO NOT WAIT TILL THE LAST MINUTE TO SUBMIT – DEADLINES WILL **NOT** BE EXTENDED
- IF YOU WISH TO REVIEW YOUR QUIZ/HOMEWORK, YOU MUST SCHEDULE A TIME WITH ONE OF OUR TEACHING ASSISTANTS WITHIN ONE WEEK FROM THE CLOSING DATE FOR THE QUIZ/HOMEWORK.



Grading Criteria

Grading criteria may vary from those for other courses or even this same course in other semesters. Grades will be based on the following point ranges:

GRADES WILL BE BASED ON:

POINTS ABOVE/UPTO	Letter Grade
0%	F
72%	C
77%	C+
80%	B-
83%	B
86%	B+
90%	A-
93%	A

Note: Grades are NOT curved

UT Dallas Syllabus Policies and Procedures

Academic Support Resources

- See [Academic Support Resources](#) webpage
- See [UT Dallas Syllabus Policies](#) webpage



Course Syllabus

Chapter	1	GETTING STARTED WITH EXCEL
Chapter	2	THE COMMAND SYSTEM
Chapter	3	THE FILE SYSTEM
Chapter	4	POPULATING A WORKSHEET WITH DATA
Chapter	5	ABSOLUTE AND RELATIVE REFERENCING
Chapter	6	VALIDATING DATA
Chapter	7	RANGE NAMES
Chapter	8	PROTECTING AND BACKING UP DATA
Chapter	9	FORMATTING
Chapter	10	FUNCTIONS
Q1		CHAPTERS 1 THROUGH 10 (INCLUSIVE)
Chapter	11	DATE AND TIME FUNCTIONS (study on your own)
Chapter	12	REFERENCE FUNCTIONS
Chapter	13	LOGICAL FUNCTIONS
Chapter	14	MATHEMATICAL FUNCTIONS
Chapter	15	STRING FUNCTIONS
Chapter	16	FINANCE FUNCTIONS
Chapter	17	ARRAYS
Chapter	18	STATISTICAL FUNCTIONS
Q2		CHAPTERS 1 THROUGH 18 (INCLUSIVE)

Chapter	19	SPREADSHEET MODELING AND WHAT-IF ANALYSES
Chapter	20	OPTIMIZATION
Chapter	21	ANALYZING DATA
Chapter	22	PIVOT TABLES
Chapter	23	DATA VISUALIZATION
Chapter	24	VISUAL BASIC FOR APPLICATIONS
Q3		CHAPTERS 1 THROUGH 24 (INCLUSIVE)



ACADEMIC CALENDER

Mon Aug-21	Chapters 1 – 7	GETTING STARTED WITH EXCEL
Tue Aug-22		THE COMMAND SYSTEM
Wed Aug-23		THE FILE SYSTEM
		POPULATING A WORKSHEET WITH DATA
		ABSOLUTE AND RELATIVE REFERENCING
		VALIDATING DATA
		RANGE NAMES
Mon Aug-28	Chapters 8 – 12	PROTECTING AND BACKING UP DATA
Tue Aug-29		FORMATTING
Wed Aug-30		FUNCTIONS
		DATE AND TIME FUNCTIONS
		REFERENCE FUNCTIONS
Wed Sep-06	Quiz 1	No Class
Thu Sep-07		
Fri Sep-08		
Mon Sep-11	Chapters 13 - 15	LOGICAL FUNCTIONS
Tue Sep-12		MATHEMATICAL FUNCTIONS
Wed Sep-13		STRING FUNCTIONS



Mon Sep-18	Chapters 16	FINANCE FUNCTIONS
Tue Sep-19		
Wed Sep-20		
Mon Sep-25	Chapters 17- 18	ARRAYS
Tue Sep-26		STATISTICAL FUNCTIONS
Wed Sep-27		
Mon Oct-02	Chapter 19	SPREADSHEET MODELING & WHAT IF ANALYSES
Tue Oct-03		
Wed Oct-04		
Wed Oct-11	Quiz 2	No Class
Thu Oct-12		
Fri Oct-13		
Mon Oct-16	Chapter 20	OPTIMIZATION
Tue Oct-17		
Wed Oct-18		
Mon Oct-23	Chapter 20	OPTIMIZATION
Tue Oct-24		
Wed Oct-25		



Mon Oct-30	Chapter 20 – 22	OPTIMIZATION
Tue Oct-31		ANALYZING DATA
Wed Nov-01		PIVOT TABLES

Mon Nov-06	Chapter 21 – 23	ANALYZING DATA
Tue Nov-07		PIVOT TABLES
Wed Nov-08		DATA VISUALIZATION

Mon Nov-13	Chapter 23 – 24	DATA VISUALIZATION
Tue Nov-14		
Wed Nov-15		VISUAL BASIC FOR APPLICATIONS

Mon Nov-20	Thanksgiving Break	No Class
Tue Nov-21		
Wed Nov-22		

Mon Nov-27	Chapter 24	VISUAL BASIC FOR APPLICATIONS
Tue Nov-28		
Wed Nov-29		

Mon Dec-04	Quiz 3	No Class
Tue Dec-05		
Wed Dec-06		



Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same: *"As a Comet, I pledge honesty, integrity, and service in all that I do."*

Course Policy: Be Advised

General

- a. Announcements or changes will be made through the eLearning and/or UT Dallas email and it is your responsibility to log into eLearning (Blackboard) periodically (e.g., weekly, daily) and review the provided materials. The instructor makes every effort to inform you of any changes.
- b. Read the syllabus thoroughly and get familiar with the course policy, assignments, due dates, and expectations.
- c. The office hours must be used to discuss specific concerns and should not be viewed as an opportunity for additional instruction or tutoring. Your primary source of instruction is the eLearning materials, the research you conduct online to complement your learnings and books you review from UT Dallas digital library.
- d. Any student responsible for committing an act of academic dishonesty will receive a grade of F or 0 (zero) on that quiz, exam, assignment, project, or course.
- e. Please note:
 - i. *The instructor reserves the right to change the grading policy without any notice due to unforeseen circumstances such as dishonesty, cheating, etc.*
 - ii. *The instructor reserves the right to change the already published grades on eLearning and/or Galaxy if there has been a miscalculation.*
- f. When the grades are posted on eLearning, you have 72 hours to review and notify the instructor if there is an issue with your grade, otherwise, the grade remains as is and will not be changed under any circumstances.
- g. Pay close attention to all the due dates and exam dates, so plan/schedule your personal activities around those dates. Never purchase a plane ticket (no matter how cheap it is) before the posted final Exam Week (review UTD calendar for specific dates).
- h. You will receive a grade of zero or F for any missed assignment, exam or quiz, no exceptions.
- i. There will be NO make-up for any missed assignment, quiz, exam nor any project for an extra credit. Do not email the instructor after an exam or a quiz and request extra credit for what was earned. Such emails will not be answered. **Grades are not curved, but the instructor may make changes at his discretion.**
- j. Exam make up may be accepted only for medical emergencies (written statement justifying the situation from a local physician required). Scheduling a surgery/operation on an exam date is not considered a medical emergency. The written statement should include the physician's (not a physician assistant) address and phone number. In medical emergency circumstances, your make-up exam may include SIGNIFICANT discussion, essay, and short answer questions.



READ THE SYLLABUS IN ITS ENTIRETY

Professor/TA will not respond to questions if the information is already provided in the syllabus.