



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Course Syllabus
Term 2, 2023/2024
Prof. Omar Khalil
ISOM 434-01A: Data and Information Management

Course prerequisites: ISOM 331

Lecture Time and Location: Monday & Wednesday: 9:30 – 10:45 AM Room: D2 -1005

Contact Information:

Location: ISOM Department – 2nd Floor – Office No. 27

Email: omar.khalil@ku.edu.kw

Office Phone: (965) 2498-8676

Office Hours: Monday & Wednesday: 12:00 – 2:00 PM

We will also chat and virtually meet via MS Teams as needed.

Lab Instructor: Eng. Osamah Mustafawi

Email : osama.mustafawi@ku.edu.kw

Lab Schedule: Tuesday @ 2:00 pm

Course Websites: See your course websites on Teams

Course Description:

This course introduces students to basic theoretical and fundamental concepts, methods and techniques essential to developing inventive database systems in a business context. It instills in students core skills required to identify organizational information requirements, model the requirements using appropriate conceptual data modeling techniques, convert the conceptual data model into logical data model, verify the structural characteristics of the logical model with proper normalization techniques, and implement and maintain a database using a suitable database management system (DBMS). The course also provides students with fundamental concepts in managing data and information quality, privacy, and security.

Course Learning Objectives (CLOs):

The learning outcomes for this course, listed below, relate to the learning goals of the College of Business Administration Undergraduate Program. Upon successful completion of the course, students will be able to:

CLO1: Understand the role of database systems in managing organizational data and information in a changing technological environment.



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



CLO2: Apply appropriate techniques and tools (e.g., interviews, documents analysis, prototyping, etc.) to clearly identify the information requirements of a database potential users.

CLO3: Apply suitable data conceptual modeling techniques (e.g., Entity-Relationship and OO-Class diagramming) to effectively capture and model the information requirements of a database potential users.

CLO4: Choose and innovatively use a proper logical data model (e.g., network, relational, OO, etc.) to convert the conceptual model into a logical data model (i.e., logical database design).

CLO5: Apply a proper technique (e.g., normalization) to verify the integrity and structuredness of the data in the logical database design.

CLO6: Choose and apply a suitable DBMS and a database programming language (e.g., SQL) to implement, populate, access, and update the designed database.

CLO7: Recognize and present fundamental concepts and organizational roles in data and information quality, privacy and security management.

CLO Mapping to CBA Skill Based Competency Goals¹

CLO	Competency Goal				
	Analytical	Communication	Information Technology	Business Ethics	General Business Knowledge
1			R		R
2	A	R	A		
3	R		I		
4	A		A		
5	A			R	
6			I, R		
7		R		R	R

Type of Emphases:

- **(I)ntroduce:** Students will be introduced to the skill and their grasp of it assessed in the course.
- **(A)pply:** The course will not cover the skill. Students should have a high-level grasp of the skill and are required to apply it in the course.
- **(R)einforce:** Students should have an introductory-level grasp of the skill and the course will improve their mastery to a higher level.

¹ CBA Competency Goals can be found at the end of this document



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Competencies:

COMPETENCIES	CONTACT HOURS	
<i>Students will be introduced to:</i>		
Information and organizational memory,	3	3
Data management issues and the role of data base administrator,	3	6
Data base design within the context of information systems design.	3	9
<i>Students will understand:</i>		
Conceptual, logical, and physical data base design,	3	12
Data modeling,	3	15
Types of data models	3	18
Data integrity and security in traditional and Internet database applications	3	21
Data warehousing	3	24
<i>Students will be able to:</i>		
Identify business entities and attributes in a given situation,	3	27
Design conceptual data models,	3	30
Normalize data relationships in a conceptual model,	3	33
Implement a conceptual data base using a relational DBMS,	6	39
Querying and maintaining a data base using SQL.	6	45

Required Material:

Required:

- Hoffer, J. A., Ramesh, V., and Topi, H., Modern Database Management, 12th Ed. Pearson, 2016.

Additional material:

- Other resources and slides will be available on the course website on MS Teams.

Course Conduct:

This is a blended course, and the course objectives will be achieved through the use of lectures, in-class and online discussions, hands-on experience in the computer lab, and students' presentations. Out-of-class activities will include reading assignments, assigned exercises, team projects, and other related course activities. All assignments will be outlined in the assignment channel of the course web site on MS-Teams.



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Course Requirements and Policies:

Individual Assignments: Assignments will be posted on MS-Teams. These assignments need to be submitted through MS-Teams by the given due dates/times. Late submission is not accepted.

In-Class Quizzes: There will be in-class quizzes, one for each chapter. These quizzes are scheduled on the due dates of the respective chapters. No make-up quizzes will be given.

Grades: After a grade is posted, you will have one week to discuss your assignment, quiz, presentation, or absence with your instructor. After that week, the grade is final.

Emails: Emails sent must include a subject, be addressed properly, and signed with full name, course and section number. Otherwise, the email will be discarded. Email etiquette could be accessed online on: <http://is.cba.edu.kw/130/email.htm>.

Class Preparation: It is very important that students are prepared for each class period. Check the course schedule and the instructor's postings on MS-Teams before each class for the required reading or video.

Nepotism: By registering for this class, you agree to abide by all its regulations including the zero tolerance of nepotism. By agreeing to this rule, you understand that your grade will be decreased a full letter grade (that is: goes from an "A" to a "B" for example) if anyone (family, friends, etc.) attempts to influence your grade (with or without your knowledge).

Attendance and Participation: Every student in this course must abide by the Kuwait University Policy on Attendance (published in the Student Guide, Chapter 3, Section 13). A copy of the student guide can be accessed online on:

http://www.kuniv.edu/cs/groups/ku/documents/ku_content/kuw055940.pdf

Participation will be assessed in each class period. Your class participation and attendance will both contribute to your overall grade. Be on time for the lecture. At the beginning of each lecture, attendance will be taken, anyone coming after that time will be considered as late. Being late three times is equivalent to one absence. Absence with a valid excuse will still count as an absence. Each student is allowed three absences (no questions asked), after that, each absence will result in an automatic deduction of the participation grade points. In addition, excessive absences (more than 6 hours) may lead to a failing grade (FA).

Cheating and Plagiarism: Every student in this course must abide by the Kuwait University Policy on Cheating and Plagiarism (published in the Student Guide, Chapter 3, Section 2). A copy of the student guide can be accessed online on:

http://www.kuniv.edu/cs/groups/ku/documents/ku_content/kuw055940.pdf



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Please carefully note all sources and assistance when you turn in your work. Under no circumstances should you take credit for work that is not yours. You should neither receive nor give any unauthorized assistance on any deliverable. If you have any questions about what constitutes “unauthorized assistance” please email me before the deliverable is submitted.

Mobiles: Students should turn silent their mobile at the beginning of each class.

Special Needs: If you are a special needs student (have any disability), please inform your instructor.

Writing Style: Any information sources (e.g., books, articles, websites, photos, videos, speeches, etc.) you might include in class-related documents and presentations should be referenced using the **APA writing Style**. The APA Manual/Guide can be found at: <http://www.bibme.org/apa>. Refer to the English Language Unit for help.

Grading:

The scores in this course will be the weighted average of the following items:

Activity	Grade
Mid-Term	20%
Final Exam	40%
Class and Lab Assignments	15%
Team project	20%
participation	5%
Total	100 %

Grade Distribution:

Grade	Range
A	≥ 95
A-	≥ 90 and < 95
B+	≥ 87 and < 90
B	≥ 83 and < 87
B-	≥ 80 and < 83
C+	≥ 77 and < 80
C	≥ 73 and < 77
C-	≥ 70 and < 73
D+	≥ 65 and < 70
D	≥ 60 and < 65
F	< 60



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Course Outline:

Week	Date	Readings	Topics	Project
1	Feb 4	---- Chp. 1	Introduction, The DB Environment & Development Process	
2	Feb 11	Chp. 1	Chapter 1 Continues	
3	Feb 18	Chp. 2	Modeling Data in the Organization	Project Proposal
4	March 3	Chp. 2	Chapter 2 (cont.)	
5	March 10	Chp 3	The Enhanced E-R Model	
6	March 17	Chp. 3	Chapter 3 (cont.)	The Conceptual Model (ERD)
7	March 24	Mid-Term Chp. 4	Logical DB Design and the Relational Model	
8	March 31	Chp. 4	Chapter 4 (cont.)	
9	April 7	Chp. 5	Physical DB Design	The Logical (Relational) Model
10	April 14	Chp.6	Introduction to SQL	
11	April 21	Chp.7	Advanced SQL	
12	April 28	Chp.12	Data and DB Administration	The Physical Model & Project Implementation
13	May 5	Chp. 9	Data and DB Administration) Cont.)	
14	May 12		Final Report & Presentation	Complete Prject
15	May 23	Final Exam	11:00 – 13:00	



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



Additional Information:

CBA Vision:

To be the leading provider of quality business education in the region.

CBA Mission:

As part of Kuwait University, the leading national institution of higher education, the College of Business Administration is committed to providing quality business education, engaging in research and community services to contribute to the socio-economic development of the country.

Undergraduate Program Learning Goals:

LG1. Ethical Skills: A CBA graduate shall be able to recognize ethical issues present in business environment, analyze the tradeoffs between different ethical perspectives, and make a well-supported ethical decision.

Student Learning Objectives:

- 1.1. Identify the ethical dimensions of a business decision.
- 1.2. Recognize and analyze the tradeoffs created by application of competing ethical perspectives.
- 1.3. Formulate and defend a well-supported recommendation for the resolution of an ethical issue.

LG2. Decision Making Skills: A CBA graduate shall be able to recognize the extent of the implications of business decisions, evaluate different proposals based on available facts, and make a well-supported business decision.

Student Learning Objectives:

- 2.1. Recognize the implications of a proposed business decision from a variety of diverse, internal and external, stakeholder perspectives.
- 2.2. Evaluate the integrity of the supporting evidence and data for a given decision based on business principles.
- 2.3. Analyze a given business decision using integrative techniques, structures, and frameworks.

LG3. IT and Computer Skills: A CBA graduate shall demonstrate capabilities in using general-purpose computer applications

Student Learning Objectives:

- 3.1. Use a word-processing application to type and format a business document.
- 3.2. Use a data-processing application to analyze or solve a business problem.
- 3.3. Use a presentation-making application to prepare a slideshow for a business issue.

LG4. Communication Skills: A CBA graduate shall be able to communicate effectively in a wide variety of business settings.

Student Learning Objectives:



Kuwait University
College of Business Administration
Quantitative Methods and Information
Systems Department



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- 4.1. Deliver clear, concise, and audience-centered presentations.
 - 4.2. Write clear, concise, and audience-centered business documents.

LG5. Analytical Skills: A CBA graduate shall be able to apply quantitative and qualitative methods to solve business problems.

Student Learning Objectives:

- 5.1. Use appropriate tools to solve a given business problem.
- 5.2. Analyze business problems using suitable business theories and techniques.
- 5.3. Structure logic and frame quantitative analysis to solve business problems