King Fahd University of Petroleum & Minerals

Department of Information Systems & Operations Management

MIS 301: Business Systems Analysis & Design

Fall Semester 2022-2023 (222)

Instructor Name	Class Time / Location	Office	Phone	Office Hours	Email
Dr. Amine Nehari Talet	MW 2:00 – 2;50 PM Building 24-151	24/235	3450	MW 12:30 - 1:30 PM & by Appointment	nehari@kfupm.edu.sa
	M 3:20-5:10 PM Building 24/277				

Course Description:

Examining the design of information systems from a problem-solving perspective. Providing a methodological approach to developing computer systems including feasibility studies, systems planning, analysis, design, testing, implementation, and maintenance. Emphasis is on the strategies and techniques of systems analysis and design for dealing with complexity in the development of information systems.

Prerequisite: *MIS 215*

Objectives:

Upon successful completion of this course, student should:

- Possess fundamental knowledge and skills in various system development methodologies, techniques and tools.
- Have the necessary educational foundation to apply both traditional and object oriented approaches in system development environments.
- Have a good understanding and working knowledge for commonly used analysis and design tools in traditional system development approach like data flow diagram, data dictionary, entity relationship diagram, structure chart and process specifications.
- Apply development methodologies, tools and techniques discussed in classroom in a real life group project.

Learning Outcomes:

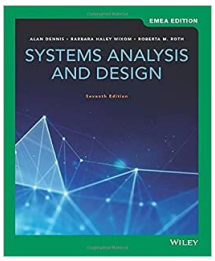
After completing this course, students are expected to possess the following knowledge and skills:

- Examine the concept of a system and what it means to develop and implement an information system in an organization **(EM1-5)**
- Examine the major phases of the systems development life cycle **(EM1-5)**
- Examine techniques for identifying the information and processing needs of an organization **(EM1-5)**
- Use basic modeling tools for representing the analysis and the design of an information system **(EM1, 3)**
- Design a system from the specifications including the user interface, system module structure, etc. **(EM1, 3)**
- Able to work in team environment and learn group dynamics **(EM1, 3)**

Textbook:

Lecture:

Dennis, A., B. H. Wixom, & R. M. Roth, Systems Analysis Design, 6th Edition, New York, NY: John Wiley & Sons, 2015 ISBN- 978-1-119-63614-4 2020



***Lab*:**

The lab provides the instruction on the course project, exercises, and general discussion.

A. Other Instructional Resources:

- Prototyping tool (Microsoft Access from Microsoft Corp.)
- Project Management Tool (Microsoft Project from Microsoft Corp.)

B. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- ✓ https://www.studytonight.com/dbms/database-normalization.php
- ✓ https://www.draw.io
- ✓ https://creately.com/diagram-type/use-case
- ✓ https://www.guru99.com/mobile-app-development-tools.html
- ✓ https://www.adobe.com/devnet/acrobat/documentation.html
- ✓ https://support.microsoft.com/en-us/office/video-what-is-visio-421b0c94-7ecf-4e62-8072-d27e04d24fe6
- ✓ https://app.diagrams.net/
- ✓ https://adobe-xd.en.softonic.com/download?utm_source=SEM&utm_medium=paid&utm_campaign=EN_UK_DSA&gclid=CjwKCAiA_Kz-BRAJEiwAhJNY7yVmecHJHGOm-6CNoB5YFAwBY0L-jK-9Boxx047LlVBksYvwGEhejhoCTukQAvD_BwE
- ✓ https://app.creately.com/

Important Dates to Remember

Go to Registrar's website to consult University Calendar Term: 222 https://registrar.kfupm.edu.sa/academic-calendar/current-academic-year/

Evaluation Methods:

EM1.	Class Performances	**10%**
EM2.	Quizzes	**15%**
EM3.	Group Project and Lab Work	**30%**
	Lab work	**12 %**
	Progress & Final Report + System	**12%**
	Presentation	**6 %**
EM4.	Midterm Exam	**20%**
EM5.	Final Exam	**25%**
	Total	**100 percent**

The grade will be standard, unless it is necessary to average or curve the grade at the end of semester.

Grading Policy Details: Followings are the detail for the grading policy. Please read it carefully.

Exams:

Midterm Exam 20%: week 8 and will cover the chapters as mentioned in course schedule. **Chapters 1, 2, 3, 4, 5**

Final exam 25% will cover the remaining **Chapters 6, 7, 9, 11, 12, 13** and will be held on as scheduled by the Registrar. **No makeup exams will be given**

Quizzes (15%): Quizzes will be held alternate week during the lab sessions. They will cover lecture topics. There will be four to five quizzes depending upon the schedule and time. One of the lowest quiz will be dropped from the calculation of the grade (the second worst one will be dropped on the quality of Term Project). There will be no makeup quizzes.

Class Performances (10%)

This is a subjective evaluation of your contribution in class to unstructured discussion of the textbook, supplemental readings, and the formal presentations. Of the 20%, which is allotted, your grade will be prorated weekly as follows:

8% - Asks good questions, makes valuable observations, and answers questions effectively on an ongoing basis.

6% - A frequent participant, but all questions, answers, or observations are not always effective, or not on an ongoing basis, or tends to discourage effectiveness.

4% - Only participates infrequently, or questions/answers do not reflect adequate preparation, or late to class.

2% - Very rare participation, or questions/answers reflect little or no preparation, or very late to class.

0% - **Displays no sign of life, or absent for entire class**.

As can be seen, you are expected to attend class and participate. Not attending class will have an influence on this portion of your grade since you cannot participate if you are not here with us.

You are encouraged to be "**Entrepreneurial**" in your approach to the class, in your assignments, and in your class presentations and interactions. Your observations or experiences, and how they might relate to the subject at hand, have the potential to enhance all of the class sessions. Please share those of value so that you may be a resource to all participants including me! You are also encouraged to employ the systems perspective and wear the "manager's hat" in relating to the issues so that you will be able to think about them critically from multiple dimensions.

Group Project and Lab Work (30%)

1. **Lab Assignments (12%):** Assignments will be given based upon lab work. Assignments will be assigned throughout the semester. For some of these, you will use the computer. Students are encouraged to use the computer labs in Building 24 in doing their homework assignments, as needed software packages may not be available elsewhere. **Assignment is to be submitted on BB 9.1 Assignment digital drop box on its due date for grading.** Late submission of assignments will

NOT be accepted.

2. **Term Project (18%)** Progress & Final Report + System 11.5%, Presentation 6.5 %
   The students will perform the complete analysis and design of an information system of their choice, or assigned by the instructor. Therefore, the students should start to form teams and contact some companies/organizations/KFUPM Departments immediately. The project teams will consist of two to three students. The instructor can rearrange team sizes and formation at any time during the semester. Choosing one team member for each one of the following roles is recommended.

   A student can be assigned more than one roles.
   - ***Project Leader***: Responsible for overseeing the project. Plans and allocates all resources including tasks, time, and other activities.
   - ***Document Controller***: Keeps all the files and different revisions, and creates backups.
   - **Editor:** Reads and approves the deliverables (spelling, grammar, conformance to assignment requirements, etc.).
   - **Site Liaison**: The person who contacts the company/organization/institution (project sponsor) and handles the relationships with them.

All team members including project Leader will be allocated the project tasks equally.

Filling one of these positions does not mean that you will not do any other work.

***The project Leader is responsible for ensuring equal and fair distribution of the necessary workload*.**

There will be a project proposal presentation, five deliverables, and a final project presentation. The grade for the project will be based on a combination of the grades for each deliverable, the proposal and final presentation. In the case of equal and fair workload distribution, all of the project members will receive the same grade assigned to the team. However, the instructor holds the right to investigate the complaints. In such cases, the grade of the student who is subject to the complaints can change greatly.
The project related material should be turned in as hard copy in the Lab session (class) and as softcopy (in PDF) under the corresponding assignment on Blackboard. The students are *responsible* for keeping the softcopies (computer files) to resubmit them if necessary. Do back-up your files. Project deliverable files loss cannot be accepted as an excuse.
If a student does not participate in the project assignments, presentations, meetings, and other related his score will be **zero**. The presentation scores will be based on completeness, consistency and correctness, organization, use of appropriate tools, and presentation skills.
Deliverables:

Followings are the deliverables with their deadlines:

Task/Deliverable (D)	Due Date
Project Team Formation and Project information	**Week 3**
D1 - Project description, system request, and feasibility study	**Week 4**
D2 - Project Plan	**Week 5**
D3 - System proposal	**Week 8**
D4 - Use case analysis, DFD, ERD, use case diagram, data dictionary, and user interface design	**Week 11**
D5 - Final Report, prototype, and presentation	**Week 14**
D6 - Presentation	**Week 15**

All of the reports should have a cover page, with the logo of the business school logo Team member information, table of contents, Introduction, and the requirement as specified in the deliverables, with conclusion and remarks if any.
The final report should have, a cover page, table of contents, introduction, literature review, methodology, computer program/document/application representing the project, findings, limitations, recommendations, conclusion, and references, graded progress reports (deliverables), and other supporting materials. Final Report + Presentation should also be posted in **BB 9.1** under Final Report.

The final report should contain:

1. Cover page (Title, Course Number, Student-IDs, Names, Submission Date)
2. Table of content (Section/subsection Headings and Page Numbers)
3. Company information, contact person, organizational chart
4. IT organizational chart, information of software, hardware, business applications, network, or any other related information, number of employees in IT department and their duties
5. Prototype App information, snapshots, of screens, etc.
6. Findings, conclusions and recommendations
7. PowerPoint or video presentation
8. References (properly cited in the report

Course Policy and Regulations:

1. Students are expected to read all assignments (chapters with cases) prior to the class session for which they are assigned to be discussed in the class.
2. Each student is expected to do all his own work. Working in PAIRS or GROUPS is NOT allowed unless required. Unreasonable collaboration is cheating. Cheating of any assignments, quizzes, or exams will result in an automatic "F" grade for ALL parties concerned.
3. The University regulations regarding attendance and examinations will be strictly observed. Refer to the Undergraduate Bulletin. Students are expected to attend all classes on time. Any student who misses 9 classes (20% of meetings) with no KFUPM official excuse will receive a "DN" grade in this course. If a student misses more than 3 (but less than 9) meetings with no KFUPM official excuse, he will be subjected to a reduction of 1% of the total grade per absence.
4. Exams will be returned and discussed in class, but will be collected and retained by the instructor. There will

be no make-up examinations, except for extreme emergency or medical reasons supported by medical or other appropriate documentation.

5. Your Department expects its students to behave at all times in an ethical and legal manner. Firstly, ethical behavior affirms the personal value and worth of the individual. Secondly, IT and professionals frequently handle confidential information on behalf of their employers and clients. Thus employers of MIS graduates expect ethical conduct from their employees because that behavior is crucial to the success of the organization. Academic dishonesty is a major violation of ethical and legal behavior. Academic dishonesty is defined as claiming the work of others as your own, or using illegal or unapproved means to raise your grade in a class. Examples include: copying answers from another person's paper; using unapproved notes during an exam; copying computer code from another person's work; having someone else complete your assignments or take tests on your behalf; stealing code printouts, software, or exams; recycling assignments submitted by others in prior or current semesters as your own; and copying the words or ideas of others from books, articles, reports, presentations, etc. for use as your own thoughts without proper attribution (i.e., plagiarism). It does not matter whether you received permission from the owner of the copied.
6. A detailed lab schedule and also a number of guidelines, notes, and other materials will be available on **BB 9.1**. **Please check it regularly**.
7. **BB 9.1** will be used extensively throughout the course for all course purpose including course material, participation, assignments and other relevant information. **BB 9.1 can be accessed through the KFUPM portal.**

Study Practice:

Careful and timely reading and study as well as completion of all written assignments by the expected dates is critical to your success in this course.

Text readings will precede coverage of the material in class. This will facilitate your active participation in class discussions.

In class, do not expect full-coverage lectures. You can then **highlight material** that is appropriate during class coverage. **Make notes at home before or after the class** and then **ask your questions on the covered material during the class.** This will stimulate discussion quickly.

AACSB & NCAAA Perspective: The AACSB expect business curricula to incorporate various to contemporary organization in MIS 301 **course Ethical issues** are integral part of the assigned readings at the most of the assigned chapters. Moreover, global issues are also covered in many of these chapters.

TENTATIVE Lecture Schedule TERM 222
Location: 24/151

Week # Start date	Topic	Readings
1 16 January 2023	**Syllabus, Course Overview** **The Systems Analyst and Information Systems Development**	Chapter 1
2 23 January 2023	**The Systems Analyst and Information Systems Development**	Chapter 1
3 30 January 2023	**Project Selection and Management** **Project Teams and projects to be decided**	Chapter 2
4 6 February 2023	**Requirements Determination** **D1 - Project description, system request, and feasibility study**	Chapter 3
5 13 February 2022	**Use Cases Analysis** **D2 -Project Plan**	Chapter 4
6 20 February 2023	**Process Modeling** **Saudi Founding Day (22-23 Feb, 2023)**	Chapter 5
7 27 February 2023	**Process Modeling** **D3 – System proposal**	Chapter 5
8 6 March 2022	Data Modeling **Midterm Exam during lab Chapters 1, 2, 3, 4, & 5**	Chapter 6
9 13March 2023	**Moving to Design**	Chapter 7
10 20 March 2023	**User interface Design**	Chapter 9
11 27 March 2023	**Data Storage Design** **D4 – Use case analysis, DFD, ERD, use case diagram, data dictionary, and user interface design**	Chapter 11
12 3 April 2022	**Data Storage Design**	Chapter 11
13 10April 2023	**Moving into Implementation**	Chapter 12
14 17 April 2023	**Transition to the New System** **D5 – Final Report Prototype, and Presentation Submission.** **Eid Al-Fitr Holidays 14-27 April 2023**	Chapter 12
15 8 May 2023	**D5 – Final Report Prototype, and Presentation.**	Chapter 13
Tuesday 10 May 2022 Preparation for exams		
	Final exam: ---------- @ ------- PM as scheduled by the Registrar **Chapters 6, 7,9, 11, 12, 13**	

TENTATIVE Lab Schedule TERM 222
Location: 24/277

Week # Start date	Lab Work	Chapter
1 16 January 2023	**Introduction**	
2 23 January 2023	**Systems Analysis** Writing System Request & Feasibility Analysis using **MS Excel Spreadsheet**	Chapter 1
3 30 January 2023	**Feasibility Analysis** Writing WBS (Work Breakdown Structure) and developing Project Plan using **MS Project Management**	Chapter 2
4 6 February 2023	**Requirements Analysis** User Requirements Determination Writing requirements definition report	Chapter 3
5 13 February 2023	**Use-Case Analysis** Documenting business process requirements with Use Case Forms	Chapter 4
6 20 February 2023	**Process Modeling** Drawing Data Flow Diagrams (DFD) for exercise application **Saudi Founding Day (22-23 Feb, 2023**	Chapter 5
7 27 February 2023	**Data Modeling** Drawing Entity Relationship Diagrams for exercise application scenarios using **MS Visio**	Chapter 6
8 6 March 2023	**Midterm Exam during lab Chapters 1, 2, 3, 4, 5 and 6**	
9 13March 2023	**Moving to Design** Learning how to draw ISD (Interface Structure Diagram) diagram, story boarding diagram and Introduction to CASE/Tools	Chapter 7
10 20 March 2023	**User Interface Design** Learning how to draw ISD (Interface Structure Diagram) diagram and modeling using CASE/Tools	Chapter 9
11 27 March 2023	**Data Storage Design (Databases)** Data Dictionary	Chapter 11
12 3 April 2022	**Moving to Implementation** Learning how to draw ISD (Interface Structure Diagram) diagram and modeling using CASE/Tools	Chapter 12
13 10 April 2023	**Transition to the New System** Learning how to draw UML Use Case and Class Diagrams	Chapter 13
14 17April 2023	**Projects Submission and presentation** **Eid Al-Fitr Holidays 14-27 April 2023**	
15 8 May 2023	**Projects Presentations**	

Mobile Usage Policy:

Use of mobile phones during the class and the lab session is strictly forbidden. Mobile phones must be switched off or on silent mode all the time.