

**IE-462**

**Section 1, CRN: 33602/603/604**

**Section 2, CRN: 38318/319/320**

**Section 3, CRN: 76433/434/435**

**First Semester 1440-41 H (Fall-2019) – 2(2,1,1)**

**“INDUSTRIAL INFORMATION SYSTEMS”**

**Course Description**

**Course-in-brief**

Analysis, design and implementation of industrial information systems with special focus given to manufacturing systems and environments; Information systems development life cycle, and information systems requirements determination; Database modeling and design; Structured analysis and functional architecture design; Object-oriented analysis and design; E-business and web-based database.

**Level:** 10 (for more details: [https://engineering.ksu.edu.sa/en/Bachelor\\_of\\_Science\\_in\\_IE](https://engineering.ksu.edu.sa/en/Bachelor_of_Science_in_IE))

**Estimated Category Content:**

Engineering science: 1 credit hour

Engineering design: 1 credit hour

**Prerequisite:** IE 314 – Industrial Operations Management – 2

**Co-requisite:** None

**Time and Place**

<b>Section 1</b>	<b>Section 2</b>	<b>Section 3</b>
Lecture (33602): <b>Sun, Tue: 08:00 – 08:50 AM</b> (1-A-42) Dr. El-Sherbeeney	Lecture (38318): <b>Sun, Tue: 10:00 – 10:50 AM</b> (1-B-12) Dr. El-Sherbeeney	Lecture (76433): <b>Sun, Tue: 09:00 – 09:50 AM</b> (1-A-006 : CAD/CAM) Dr. El-Sherbeeney
Tutorial (33603): <b>Thu: 08:00 – 08:50 AM</b> (1-A-42) Dr. El-Sherbeeney	Tutorial (38319): <b>Thu: 10:00 – 10:50 AM</b> (1-B-12) Dr. El-Sherbeeney	Tutorial (76434): <b>Thu: 09:00 – 09:50 AM</b> (1-A-006 : CAD/CAM) Dr. El-Sherbeeney
Lab (33604): <b>Mon: 02:00 – 02:50 PM</b> (1-A-60) Engr. Tamer Jawad	Lab (38320): <b>Tue: 02:00 – 02:50 PM</b> (1-A-60) Engr. Tamer Jawad	Lab (76435): <b>Wed: 02:00 – 02:50 PM</b> (1-A-61) Engr. Tamer Jawad

**Course Resources**

Resources for the course include the instructor; textbook; references; class notes and handouts; your teammates; the library; and the World Wide Web.

### Instructor

Ahmed M. El-Sherbeeney, PhD

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### Teaching Assistants

Tamer Jawad, MSIE; email: [tamerje@gmail.com](mailto:tamerje@gmail.com)

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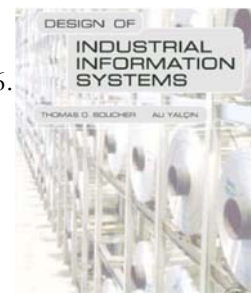
### Office Hours

I adopt an open-office policy. You are encouraged to come to my office and ask questions, consult, provide feedback, or give suggestions at any time during the day. Best times to find me in the office this semester are: **Sun, Mon, Tue, Wed: 03:00 – 05:00 PM**; or by appointment.

**Textbook:** *Design of Industrial Information Systems*.

Thomas Boucher, and Ali Yalcin. Academic Press. First Edition. 2006.

[eBook ISBN: 9780080465531](#).



### References:

- *Modern Systems Analysis and Design*.  
Jeffrey Hoffer, Joey George & Joseph Valacich. Pearson.  
Eighth Edition. 2017. ISBN 13: 978-0-13-420492-5.
- *Information Systems for Business and Beyond*.  
David T. Bourgeois. [The Saylor Academy \(open textbook\)](#).  
2014. ISBN 13: 9781533064165.



### Project Work

You will be asked to design a complete IIS project case study, including database, user forms design and development, and UML models. This will be discussed throughout the course in details.

## Course Objectives

The course aims to get the student acquainted with information system (IS) development concepts, life cycles, and tools, with special focus placed on Industrial IS (IIS); to enable students to develop and communicate IIS models.

## Intended Learning Outcomes (ILO's)

At the end of this course, students are expected to:

1. Identify fundamental concepts, theories and principles about industrial information systems [a].
2. Analyze the requirements of an IIS [c,e].
3. Use learned concepts, theories and principles to design and implement elementary industrial information systems [c,e].
4. Show the ability to engage in teamwork assignment, cooperation and contribute on the assigned tasks [c,e,g].
5. Demonstrate ability to use MS Access and Computer-Aided Software Engineering (CASE) tools in describing and presenting designed information system [k].

## Course Policies

### Homework Policy

There will be one semester-homework. This will be assigned around mid-semester and will consist of a group activity. Full details regarding this will be discussed in future weeks.

### Attendance

Attendance is a must! Attendance will be taken at the beginning of each class period (lecture, tutorial, and lab). In case you are not present when attendance is taken, you will be counted as absent; no exceptions. Students who absent themselves during a semester for more than 25% of the required number of lectures will not be allowed to continue the course, denied from sitting for the final examination, and assigned a course grade of DN, which is reported in their transcript. Note, please make note of the important college decision below regarding attendance during the first day of classes.



### Class Discussion

Communication is very important in achieving collective goals and objectives. Feel free to voice your opinions and ask questions anytime during a class period. Practice your right and freedom to learn.

### Help Sessions

Help sessions will be organized at convenient times as needed upon request from students.

### Make-up Tests and Late Homework Policy

No makeup test will be given and late homework will not be accepted unless the reason is beyond the

student's control. A valid, official excuse must be presented.

### Expected Behavior

Practicing engineers are expected to conduct themselves in an ethical and professional manner. This includes attending all class activities; meeting deadlines; observing common courtesies to fellow students, teachers, and staff; being honest; making a diligent effort to learn; and not engaging in any disruptive, irresponsible manner. Legitimate collaboration is encouraged but academic dishonesty will not be tolerated.

### Assessment and Evaluation

Many aspects of the course will receive on-going, real-time assessments and feedback to help improve students' performance. This will be done by discussing performance in class and by arranging individual meetings.

Assessment in the following areas will be converted to points, to compute your final grade in the course:

Assessment Item	Comment	Points*
<i>Attendance</i>	Used only to assess denial status	0%
<i>Homework/Quizzes</i>	Assigned once every 3-4 weeks	5%
<i>Project</i>	One semester project; Due 13 <sup>th</sup> Week: Thursday, Nov. 28, 2019 (01/4/1441H)	20%
<i>Lab activities</i>	Participation; Reports; Exam	15%
<i>Midterms</i>	Two midterms (End of 6 <sup>th</sup> and 12 <sup>th</sup> Weeks) Midterm 1: Thursday, Oct. 10, 2019 (11/2/1441H) Midterm 2: Thursday, Nov. 21, 2019 (24/3/1441H)	20%
<i>Final Exam</i>	Exams period: Tuesday, Dec. 17, 2019 (20/4/1441H): 1-4 PM (Prep. Exam Week)	40%

\* Tentative

### Course Curriculum:

#### Course topics\*:

1. Introduction to IS development (1 week)
2. Database modeling and design (4 weeks)
3. Structured analysis and functional architecture design (3 weeks)
4. Informational architecture and logical design (1 week)
5. Object-oriented analysis and design (UML)\* (4 weeks)
6. E-business and web-enabled database\* (1 week)

#### Lab topics\*:

1. Training Module 1: Building a Functional Model using IDEF0
2. Training Module 2: Modeling Entity Relationship Diagram (ERD) With MS Visio
3. Training Module 3: Building Database Using MS Access
4. Training Module 4: Creating User Interface: Forms & Reports
5. Training Module 5: Creating Unified Modeling Language (UML) Models With MS Visio

*\* Tentative*

**Course Outline\***

Week	Date: Greg.	Topic*
1 (1A)		Syllabus, course content Introduction
2 (2A)		1. Introduction to IS development
3 (3A)		2. Database modeling and design
4 (4A)	Sun. – Mon. Sep. 22-23, 2019 (23-24/1/1441H)	Cont. Database modeling and design <i>KSA National Day (Holiday)</i>
5 (5A)		Cont. Database modeling and design
6 (6A)	Thursday, Oct. 10, 2019 (11/2/1441H)	Cont. Database modeling and design <b>FIRST MIDTERM</b>
7 (7A)		3. Structured analysis and functional architecture design
8 (8A)		Cont. Structured analysis and functional architecture design
9 (9A)		Cont. Structured analysis and functional architecture design
10 (10A)		Cont. Structured analysis and functional architecture design
11 (11A)		Cont. Structured analysis and functional architecture design
12 (12A)	Thursday Nov. 21, 2019 (24/3/1441H)	4. Informational architecture and logical design <b>SECOND MIDTERM</b>

13 (13A)	<b>Thursday, Nov. 28, 2019 (01/4/1441H)</b>	<b>Cont. Informational architecture and logical design</b> <b>PROJECT PRESENTATIONS:</b>
14 (14A)		<b>Object-oriented analysis and design (UML)* / E-business and web-enabled database*</b>
15 (15A)		<b>Revision*</b>

\* Tentative