

IE-462

Section 1, CRN: 33602/603/604

Section 2, CRN: 38318/319/320

First Semester 1439-40 H (Fall-2018) – 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**

Section 1	Section 2
Lecture (33602): <b>Sun, Thu:</b> <b>08:00 – 08:50 AM</b> (1-A-60) Dr. El-Sherbeeny	Lecture (38318): <b>Mon: 10:00 – 10:50 AM</b> (CAD-CAM Lab) <b>Wed: 10:00 – 10:50 AM</b> (1-A-60) Dr. El-Sherbeeny
Tutorial (33603): <b>Tue: 08:00 – 08:50 AM</b> (1-A-60) Dr. El-Sherbeeny	Tutorial (38319): <b>Mon: 11:00 – 11:50 AM</b> (CAD-CAM Lab) Dr. El-Sherbeeny
Lab (33604): <b>Sun: 01:00 – 01:50 PM</b> (1-A-60) Engr. Tamer Jawad	Lab (38320): <b>Wed: 11:00 – 11:50 AM</b> (1-A-60) 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)

Phone (Office): +966-(0)11-469-2669

### 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: 09:00 AM – 12:00 Noon; Mon: 4:00 – 5:00 PM; Tue: 3:00 – 5:00 PM; Wed: 1:00 – 3:00 PM**, or by appointment.

**Textbook:** *Design of Industrial Information Systems*. Thomas Boucher, and Ali Yalcin. Academic Press. First Edition. 2006. [eBook ISBN: 9780080465531](#).

**Reference:** *Modern Systems Analysis and Design*. Jeffrey Hoffer, Joey Goerge & Joseph Valacich. Pearson. Eighth Edition. 2017. ISBN 13: 978-0-13-420492-5.

### Project Work

You will be asked to design a complete IIS project case study, including database, user forms design and development, and UML models.

### 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

Problems will be assigned and collected often. We will try our best to grade and promptly return the results to you in order to stay up-to-date with your progress in the course. Your solution must be organized and neat, otherwise it will be returned to you ungraded. The solution must include a problem

statement, all pertinent solution steps, equations used and assumptions made, and **boxed** answers with proper units. Use only one side of a sheet and start the solution of a new problem on a new page.

### 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.

### 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	Marks*
<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	20%
<i>Lab activities</i>	Participation; Reports; Exam	15%
<i>Midterms</i>	Two midterms (6 <sup>th</sup> and 12 <sup>th</sup> Weeks)	20%
<i>Final Exam</i>	Exams period	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*