

**COURSE TITLE:** Introduction to Information Systems

**CODE:** GI541

**CREDITS:** 4

**COEFFICIENT:** 2

**WEEKLY HOURS:** 1.5h Lecture + 1.5h Lab (Practical works)

**TOTAL SEMESTER DURATION:** 13 weeks

**PROGRAM/MAJOR:** Industrial Engineering / Production Engineering

**COURSE LANGUAGE:** English

**LECTURER:** Dr. H. BETAOUAF

### GENERAL COURSE OBJECTIVE

To become familiar with the field of Information Systems (IS) and acquire general knowledge of current trends in this area. Students will be able to analyse an IS solution and contribute to the implementation of an IS.

### LEARNING OBJECTIVES

By the end of this course, students should be able to:

- Design an Entity-Relationship (ER) model
- Convert an ER model into a normalized relational model
- Create and manipulate a relational database

### COURSE CONTENT & STRUCTURE

The course is organized as follows:

#### 1. Introduction to Information Systems

- a. General overview of IS
- b. Computerization of IS
- c. Trends and challenges in IS

#### 2. Management Information Systems

- a. Databases
- b. Database Management Systems
- c. Business applications

#### 3. Design Methods for MIS

- a. Entity-Relationship Model
- b. Relational Schema
- c. Referential Integrity
- d. Data Dictionary
- e. Queries and SQL

#### 4. Enterprise Resource Planning Systems (ERP)

- a. Features and types of ERPs
- b. ERP coverage scope

#### Lab Sessions:

- **Lab 01:** Databases and ER models. Introduction to DBMS.
- **Lab 02:** Relational model (concepts of “table”, “field”, “primary key”, “foreign key”, etc.)
- **Lab 03:** SQL and database manipulation (querying, updating, inserting, deleting)
- **Lab 04:** Set operations (union, intersection, join, etc.) and aggregation functions (sum, average, etc.)
- **Lab 05:** First hands-on with an ERP (installation, interface exploration, discovering features, etc.)

### PREREQUISITES

Basic knowledge in general computing and business management, including concepts such as: computer, internet, software, programming languages, networks, human resources management, inventory management, logistics, etc.

### RECOMMENDED RESOURCES

- Silberschatz, A., Korth, H. F., & Sudarshan, S. (2010). *Database System Concepts (6th ed.)*. New York: McGraw-Hill. ISBN: 978-0071289597.
- Elmasri, R., & Navathe, S. B. (2015). *Fundamentals of Database Systems (7th ed.)*. Boston: Pearson. ISBN: 978-0133970777.
- Gallaughier, J. (2018). *Information Systems: A Manager's Guide to Harnessing Technology (Version 7.0)*. Boston: Flat World. ISBN: 978-1453385080.
- Laudon, K. C., & Laudon, J. P. (2005). *Management Information Systems: Managing the Digital Firm (9th ed.)*. Upper Saddle River, NJ: Pearson/Prentice Hall. ISBN: 978-0131538412.

### ORGANIZATION & TEACHING METHOD

The course is delivered via slideshow presentations. Students are expected to take notes during the lectures. Each session ends with a 10-minute discussion.

During lab sessions, students apply the concepts learned in class. Assignments are posted on Teams and handed out in printed form. They must be completed during the lab session.

Late arrivals exceeding 5 minutes for lectures or labs are not tolerated.

### EVALUATION

There are two types of assessment:

**Continuous Assessment:** conducted throughout the semester via surprise quizzes, lab work, attendance, and participation

50% Quizzes

25% Lab work

25% Attendance & Participation

**Final Exam:** held at the end of the semester

**Final Grade Calculation:**

**Course Grade = 40% Continuous Assessment + 60% Final Exam**

### CONTACT

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