

### Course Syllabus

Course Title: **Special Topics in E-Business**

Course Code: **MIS 591**

Pre-requisites: **None**

Credit Hours: **3 Credit Hours**

Level Course: **Level 2**

Instruction Mode: **Online Course**

#### Course Description:

This special topic in E-Business titled “Internet of Things: Challenges and Opportunities”, which assumes no previous experience or expertise in computer science or engineering. In this course the student will gain a broad understanding of “Internet of Things” concept. The student will acquire introductory skills in IoT wireless sensors, protocols, topologies, instrumentation architectures, measurement techniques, IoT circuits, embedded systems, connectivity, and networking. This topic also will include IoT E-Business models, strategies, and innovation framework. The course also will emphasize the role of Internet of Thing about the different aspects of life, such as Smart Cities, Healthcare, Agriculture, Manufacturing and Logistics.

#### The main purpose of this course:

1. Introduce fundamentals of the Internet of Things (IoT) and its components.
2. Provide students with the awareness of the important topics and principles of an IoT.
3. Provide students with the ability to build an IoT system to solve specific problems.

WEEK	TOPICS
1	<b>Introduction to Internet of Things</b> – Definition, Improving the quality of life, IoT Architectures, Resource Management, and IoT & the Cloud system ( <i>Chapter #1</i> )
2	<b>IoT Applications (Part 1)</b> – Smart Cities and Healthcare Services ( <i>Chapter #2</i> )
3	<b>IoT Design Methodology</b> –
4	<b>IoT Applications (Part 2)</b> – Agriculture, Manufacturing & Logistics ( <i>Chapter #2</i> )
5	<b>IoT E-Business Models: From Suppliers to Customer</b> – Old business model, Business Model for IoT, and Case Studies ( <i>Chapter #3</i> )
6	<b>IoT Business Strategy &amp; Innovation Framework</b> – Overview, IoT Strategy, and IoT Business Model Innovation ( <i>Chapter #4</i> )
7	<b>IoT Sensors</b> – Overview, sensor terminology, behavior & selection ( <i>Chapter 5</i> ) Mini-Project (1)
8	<b>IoT Connectivity &amp; Networking</b> – Overview, Connectivity Challenges, Massive Multiple Access, and Special Topics ( <i>Chapter #6</i> )
9	<b>IoT Platform</b> – Design and develop the practical IoT system to simulate the virtual connected devices without having to configure and manage physical devices ( <i>Chapter #7</i> )
10	<b>Discussion Paper</b> – Trend Paper (1) in IoT Business Model Discussion Paper (Digital Business Models for Industry)

11	<b>Discussion Paper</b> – Trend Paper (2) in IoT Business Model (The Internet of Things: Applications, investments, and challenges for enterprises) Discussion Paper and Mini-Project (2)	
12	<b>Discussion Paper</b> – Trend Paper (3) in IoT Business Model	Discussion Paper
13	<b>Discussion Paper</b> – Trend Paper (3) in IoT Business Model	Discussion Paper
14	<b>Discussion Paper</b> – Trend Paper (3) in IoT Business Model	Discussion Paper
15	<b>Discussion Paper</b> – Trend Paper (4) in IoT Business Model	Discussion Paper
16	<b>Revision</b>	Final Exam (Paper)

### **Course Learning Outcomes (CLOs):**

- 1- Understand the definition and significance of the Internet of Things.
- 2- Demonstrate the application areas and usage of the Internet of Things.
- 3- Discuss the architecture, operations, and business benefits of an IoT.
- 4- Demonstrate different types of IoT sensors and protocols to use in a particular IoT system.
- 5- Explore the relationship between IoT system, Cloud computing, and Big Data.
- 6- Acquire skills on developing national and enterprise level technical strategies using an IoT systems
- 7- Implement basic IoT system on the embedded platform.
- 8- Demonstrate the IoT impacts on digital business models.

### **Grading Policy:**

	<b>Assessment Task (Quiz, Test, Exams)</b>	<b>Week Due</b>	<b>Proportion of Final Assessment</b>
1	Class Preparation & Participation	Every Week	20%
2	Discussion Papers	11, 12, 13 and 14	20%
3	Mini-Projects	6 and 12	20%
4	Final Exam (Paper)	15	40%
<b>Total</b>			<b>100%</b>

### **Attendance Policy:**

The student presents himself to the denial of entry of the Final Exam in the event of his absence by more than 25% of the total lectures and that is the decision of the Council of the College.

### **Instructor Information:**

Name: **Dr. Amani K. Samha**

Office Location: Online

Office Hours: Wednesday 10 P.M. – 12 P.M.

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