Course Descriptor
INTE450 Internet of things

Proposed Academic Year	2021/ 2022	Last Reviewed Academic Year	2020/2021
Course Code	INTE450	**Course Title**	Internet of thing
Credit hours	3	**Level of study**	Undergraduate
College / Centre	COBA	**Department**	MIFS
Co-requisites	None	**Pre-requisites**	None

1.	COURSE OUTLINE

[The Internet of things (IoT) is a system that connects every computer devices together globally.
The course will discuss about the basic concepts, terminology, and key components of IoT. It will explain the business perspectives of IoT including the advantages of early adoption and monetization models. It will further expands knowledge on the technologies that will enable IoT and the expected challenges. Several scenarios will be demonstrated to describe the use cases and applications of IoT that result in smart applications and services to inspire organizations to move to IoT.]

2.	AIMS

[This course will enable students to: define concepts and terminologies of IoT, Devices and interfaces driving IoT growth, business perspectives and Implications of IoT, role of enabling technologies for IoT like cloud computing and Big Data. It will also enhance students' knowledge in the areas of identify security and governance issues with IoT and future growth opportunities of IoT]

3.	LEARNING OUTCOMES, TEACHING, LEARNING ,ASSESSMENT METHODS , and Graduate Attributes Mapping

Learning Outcomes *(Definitive)* Upon successful completion of this course, students will be able to**:**	Teaching and Learning methods *(Indicative)*	Assessment *(Indicative)*	Graduate Attributes Mapping
1. The architecture, operation, and constraints of an embedded IoT system	e.g, lectures, online videos tutorials, seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	Assignments, Quizzes, Examination, and participation	Knowledge of a discipline. Innovative spirit. Global insight.
2. Software development techniques and tools / frameworks for embedded IoT systems	e.g, lectures, online videos tutorials, seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	Assignments, Quizzes, Examination, and participation	Knowledge of a discipline. Innovative spirit. Global insight.

3.	Approaches for efficiently powering and sustaining the operation of embedded IoT devices	e.g, lectures, online videos tutorials, seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	Assignments, Quizzes, Examination, and participation	Knowledge of a discipline. Innovative spirit. Global insight.
4.	IoT system design and sensor networks	e.g, lectures, online videos tutorials, seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	Assignments, Quizzes, Examination, and participation	Knowledge of a discipline. Innovative spirit. Global insight.

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Mid -Term exam	30%
Course work / Assignments	30%
Final exam	30%
Participation	10%
TOTAL	**100%**

5. ACHIEVING A PASS

Students will achieve 3 credit hours for this course by achieving a minimum overall score of 50%
*NB *Ensure that ALL learning outcomes are taken into account*

6. COURSE CONTENT (Indicative)

LECTURE TOPIC	TIME (HOURS)
1. **Concepts and Terminologies of IoT**	8
2. **Business Orientation of IoT**	8
3. **Basic Building Blocks of IoT–Architecture**	8
4. **Enabling Technologies of IoT**	8
5. **IoT Security and Top Governance Issues**	8
6. **IoT Case Studies and Future Predictions**	5

TOTAL HOURS	45
Plus **RECOMMENDED INDEPENDENT STUDY HOURS**	
TOTAL COURSE HOURS	45

7.	RECOMMENDED READING

Core text/s:

1. Boris Adryan, Dominik Obermaier, Paul Fremantle, The Technical Foundations of IoT, Artec House, 2017
2. Ricardo Armentano, Robin Singh Bhadoria, Parag Chatterjee, Ganesh Chandra Deka, The Internet of Things: Foundation for Smart Cities, eHealth, and Ubiquitous Computing 1st Edition, CRC press 2017

Library + online resources:
http://www.qcc.cuny.edu/SocialSciences/ppecorino/CISESHV_TEXT/CONTENTS.html
http://moodle.asu.edu.om/