[Course Title] IoT and Smart Sensing

[Course Code] COMP4531

[No. of Credits] 3-credit

[Any pre-/co-requisites] Prerequisite(s): COMP 1021 OR COMP 1022P OR COMP 2011 OR COMP 2012H

Name: [Instructor(s) Name] Prof. Mo LI

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Course Description

The objective of this course is to introduce the spectrum of research on the Internet of Things (IoT) and smart sensing. The lectures cover a range of techniques in sensing, computing, communication, and wireless networking and connect them to various applications in analytics, localization, cyber-physical systems, mobile health, security, and wearables. This course is designed with multidisciplinary students in mind.

The course is designed to be self-contained. It will cover introductory materials on mathematics and signal processing basics. Familiarity with the undergraduate level calculus, probability, linear algebra, and programming is preferred

List of Topics

1. Introduction of Internet-of-Things

2. Sensing and communication basics
    2.1 Introduction to sensing and sensors
    2.2 Wireless sensing and communication techniques

3. Wireless networking

4. Applications
    4.1 Localization & tracking
    4.2 Human activity recognition
    4.3 RFID and others

5. Security and privacy

Assessments:

 [List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
Class involvement and discussions	10%
Mid-term exam	25%

Lab assignment 1/2/3	30%
Final project (group based)project (group based) - Project execution, demonstration report	35%
Total	100%

Required Texts and Materials

N/A

[Optional] Additional Resources

Reference books

State-of-the-art research papers which may be updated from time to time