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**Department of Software Engineering**

**College of Engineering**

**Salahaddin University – Erbil**

**Subject: Advances in IoT**

**Course Book –PhD course**

**Lecturer's name: Kayhan Zrar Ghafoor**

**Academic Year: 2018 -2019**

**Course Book**

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| **1. Course name** | | **Advances in IoT** |
| **2. Lecturer in charge** | | **Kayhan Zrar Ghafoor** |
| **3. Department/ College** | | **Software Eng., College of Engineering** |
| **4. Contact** | | **e-mail kayhan@ieee.org**  **Tel:07504499850** |
| **5. Time ( hr. / week )** | | **4** |
| **6. Office hours** | | **2** |
| **7. Course overview:** | | |
| **8. Course Objective:** | | |
| **9. Student's Obligation**   * Regular attendance is required according to the university rules. * Any report/program/assignment you submit must **clearly distinguish** your contribution from others (webpages, softwares, report, discussions with other students). | | |
| **10. Assessment Scheme**  Coursework: 30 %  Final Exam: 70 % | | |
| **References**  **A specific reference book is not required in this couse. However, the following materials would be useful:**   * Internet of Things: A Hands-on Approach, By Arshdeep Bahga and Vijay Madisetti * Internet of Things Principles and Paradims by Rajkumar Buyya and Amir Vahid Dastjerdi * Recent publications for case studies | | |
| **15 Weeks** | | |
| **1st Week** | Introduction & Motivation | |
| **2nd Week** | Internet of Things (IoT) Connectivity Technologies | |
| **3rd Week** | Functionality based IoT Protocol Organization | |
| **4th Week** | Application Protocols (MQTT, CoAP) | |
| **5th Week** | 6LowPAN: An Open IoT Networking Protocol | |
| **6th Week** | 6LowPAN: An Open IoT Networking Protocol Cont’s | |
| **7th Week** | Routing in IoT Environment | |
| **8thWeek** | Multi-metric Routing Optimization In IoT scenarios | |
| **9th Week** | Z-Wave Technology | |
| **10th Week** | Wireless Sensor networks protocol stacks | |
| **11th Week** | Network standards for Personal and Body-area networks | |
| **12th Week** | Introduction of Internet of Vehicles (IoV) | |
| **13th Week** | DSRC standard for IoV | |
| **14th** | LTE-V2V for IoV | |
| **15th** | LTE-V2V for IoV cont’s | |