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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).
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| **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
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| **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  |