



INTERNET-OF-THINGS

Spring 2019 – Graduate Course

Synopsis:

The objective of the course is to introduce and develop understanding of Internet-of-Things (IoT). Students will learn various enabling technologies, architecture, protocols and services associated with IoT. It also provides an overview of recent advancements in this particular area. The aim is to involve students in research activities, particularly through addressing current research challenges within this domain.

Major Contents:

- Introduction to Internet-of-Things (IoT)
- Laws that Govern Successful IoT
- Modern Computing Paradigm
- The Internet-of-Things Ecosystem
 - Sensors, Networks, Cloud, Applications
- Architectures and Protocols
- Enabling Technologies
- Overview of IoT Applications
- Key Requirements for the development of Smart systems
- Case studies - for development of IoT-based Smart Systems
- Potential Research Areas
- Hands-on with IoT (*if time allows*)

Notes:

- Multiple reference books will be used to cover major topics. Contents of this course will comprise of material extracted from various books, high-impact journal papers and online resources. Few recommended readings are:
 - Architecting the Internet of Things
 - Florian Michahelles"
 - Internet of Things – New security and privacy challenges
 - Rolf H. Weber
 - Internet of Things: Enabling Technologies, Protocols and Applications
 - Ala Al-Fuqaha
 - The Internet of Things
 - Luigi Atzori
- Special emphasis on research project will be given and students will be guided to publish in reputable journals and conferences.

Instructor:

The course will be conducted by Dr. Muhammad Taha Jilani (m.taha@pafkiet.edu.pk). He has completed his PhD in 2015, from Universiti Teknologi PETRONAS, Malaysia. His research interest includes Pervasive systems, IoT based smart sensors, Mobile crowdsourcing and Sensors network. His research work is published in indexed journals and conferences, and also received awards in international exhibitions.

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