

Course Content

Course Title (English)	Introduction to the Internet of Things
Course Title (Chinese)	物聯網導論
Credit	3
Instructor	Prof. Alex I-Chi Lai 賴怡吉 教授
Outline	<p>In the coming era of the Internet of Things (IoT), the massive interconnections and transactions bring tremendous opportunities of innovation. Therefore, IoT has been the most highlighted areas of R&D not only in the academia but also in the business sectors. In order to cultivate the holistic, systematic skillsets in IoT study and development for students, this course “Introduction to the Internet of Things” starts from the physical-world connected things such as sensors and actuators, through the communication protocols and gateways, to the cyber platforms built upon cloud computing, and further towards the cognition capabilities such as artificial intelligence and data analytics, as well as other important related aspects including cybersecurity. The entire syllabus aims at enabling students to develop the whole stacks of IoT solutions addressing real-world issues and serving actual user needs, in a hands-on, immersive experiencing manner.</p> <p>隨著物聯網 (Internet of Things, IoT)時代的來臨，萬物串聯預計可帶來龐大的商機，已成為全球廠商競相佈局的重點研發。為培養學生掌握 IoT 就業技能與研究機會，本課程分別從物聯網的整體概念、通訊系統和實務應用等面向，引領學生具備發展 IoT 的重要觀念與技術，同時讓學生實作體驗如何打造可感測的 Sensor，瞭解如何進行感測數據的蒐集與分析，進而構想設計出可解決產業或生活問題的 IoT 方案。</p>

Goal	<p>The objectives of “Introduction to the Internet of Things” are making the students:</p> <ol style="list-style-type: none"> 1. Understand the active IoT-related topics including industrial standards, key enabling technologies, smart products and business models; 2. Grasp the advancement of cutting-edge IoT techniques and application through real-world case studies across different verticals; 3. Experience the development of IoT-related hardware and software kits including open-source ones in a hands-on manner; and 4. Foster a holistic, cross-discipline view of the connected sectors in order to drive the revolutions of the industries and business models. <p>本課程設定目標如下：預期讓學生</p> <ol style="list-style-type: none"> 1. 具體瞭解 IoT 產業發展的通用標準、關鍵技術、智慧裝置與商業模式。 2. 藉由案例介紹與探討，快速掌握全球各產業 IoT 領先應用與技術。 3. 實際體驗物聯網開發板 Hands-on，並充分利用開源軟體進行編碼。 4. 打開具跨產業及業務模式的變革視野。
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese