

Course Content

Course Title (English)	Protocol Design and Standardization for Medium Access Control
Course Title (Chinese)	媒體接取協定設計
Credit	3
Instructor	Prof. Chuni-Ting Chou 周俊廷 教授
Outline	<p>This course discusses the protocol design and international standardization of the medium access control (MAC) layer. The MAC-layer protocol resolves the resource allocation issues, which occur when multiple devices try to access the medium at the same time. In this course, we will investigate various MAC protocols including (1) Zigbee for low-rate sensor networks, (2) WiMedia for high-speed wireless personal area networks, (3) IEEE 802.22 for cognitive radio networks, and (4) the IEEE 802.11ad for multi-gigabyte wireless links. Design issues such as network architecture, address assignment, coordination and synchronization, and resource reservation, etc will be covered.</p> <p>Students also have the opportunities to use the commercialized simulation platform --- Opnet Modeler --- to perform performance evaluation and gain hand-on experience for complete system design of wireless systems.</p>
Goal	<ul style="list-style-type: none">(1) Fundamental issues of protocol design in wireless personal area networks(2) Developments of international and industrial standards(3) Use of simulation tools Opnet Modeler for performance analysis and protocol verification(4) Mathematical modeling
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

Teaching
Material

English

Chinese