Course Content

Course Title (English)	Network Planning and Management
Course Title (Chinese)	網路規劃與管理
Credit	3
Instructor	Prof. Zse-Hong Tsai 蔡志宏 教授
Outline	1. Network Performance Analysis with Queueing Theory 1.1. Review of Markov Chain Theory 1.2. Review Basic Queueing System: M/M/1, Markovian Queue 1.3. Properties in Queueing Systems: Time Reversibility, Mean Value Analysis 1.4 Open Queueing Network 1.5 Closed Queueing Network 1.6 Switch Modeling: Input queueing and Output queueing 1.5 Flow Control Models: Leaky Bucket regulator and QoS Scheduler 2. Network Planning 2.1 Routing in Wide Area Packet Networks 2.2 Optimal Routing and Topology Design 2.3 Dimensioning in Circuit Switched Networks 2.4 Access Network Design 2.5 Case studies in Network Design 3. Network Management Framework and Systems 3.1 TCP/IP Network Management: SNMP and CMIP 3.2. Bandwidth management and QoS Control

	3.3 Network Service Management
Goal	To provide the basic knowledge for the performance evaluation, network planning , routing optimization, and network management
English Teaching	☐ YES ■ NO
Teaching Material	■ English ☐ Chinese