



課 綱 Course Outline  
電機工程學系博士班國際組

|                                                                                                                                                               |                                                                                                                                     |                  |               |                                                                                         |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------|-----------------------------------------------------------------------------------------|-----|
| 中文課程名稱<br>Course Name in Chinese                                                                                                                              | 高等網路                                                                                                                                |                  |               |                                                                                         |     |
| 英文課程名稱<br>Course Name in English                                                                                                                              | Advanced topics in networking                                                                                                       |                  |               |                                                                                         |     |
| 科目代碼<br>Course Code                                                                                                                                           | EE_D0240                                                                                                                            | 班 別<br>Degree    | 博士班<br>Ph. D. |                                                                                         |     |
| 修別<br>Type                                                                                                                                                    | 選修<br>Elective                                                                                                                      | 學分數<br>Credit(s) | 3.0           | 時 數<br>Hour(s)                                                                          | 3.0 |
| 先修課程<br>Prerequisite                                                                                                                                          |                                                                                                                                     |                  |               |                                                                                         |     |
| 課程目標<br>Course Objectives                                                                                                                                     |                                                                                                                                     |                  |               |                                                                                         |     |
| This course provides a venue for the introduction and discussion of the state-of - the -art research topics as well as techniques in the areas of networking. |                                                                                                                                     |                  |               |                                                                                         |     |
| 系教育目標<br>Dept.'s Education Objectives                                                                                                                         |                                                                                                                                     |                  |               |                                                                                         |     |
| 1                                                                                                                                                             | 研究人才培育—訓練嚴謹思考能力，培育國家研究人才。<br>To cultivate talents with research knowledge                                                           |                  |               |                                                                                         |     |
| 2                                                                                                                                                             | 團隊分工領導—落實分工合作觀念，具備領導協調能力。<br>To train students with teamwork leading and coordinate ability                                         |                  |               |                                                                                         |     |
| 3                                                                                                                                                             | 創新思維啟發—建立積極挑戰態度，展現獨力研究能力。<br>To inspire students with creative thinking                                                             |                  |               |                                                                                         |     |
| 4                                                                                                                                                             | 國際視野養成—營造國際宏觀視野，培育卓越領導人才。<br>To educate students with global perspective and vision                                                 |                  |               |                                                                                         |     |
| 系專業能力<br>Basic Learning Outcomes                                                                                                                              |                                                                                                                                     |                  |               | 課程目標與系專業能力相關性<br>Correlation between Course Objectives and Dept.'s Education Objectives |     |
| A                                                                                                                                                             | 培育具備電機電子資訊工程等專業技術研發之能力。<br>To cultivate the research and developing ability of electrical, electronics and information engineering。 |                  |               | ●                                                                                       |     |
| B                                                                                                                                                             | 培育系統分析、模擬驗證、實作實現之能力。<br>To cultivate the advanced ability of analysis, verification and implementation of systems。                  |                  |               | ○                                                                                       |     |

|   |                                                                                                                                                                                                                                               |   |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| C | 訓練軟體工具使用與硬體實務驗證相互輔助之能力。<br>To train the auxiliary ability between the utilization of software tool and the verification of the hardware practice。                                                                                             | ○ |
| D | 訓練電機電子資訊專業知識與工程實務相互結合運用之能力。<br>To train the integrate ability between professional EECS knowledge and engineering practice。                                                                                                                   | ● |
| E | 落實高科技研究之分工整合與團體合作之領導能力。<br>To fulfill the leading ability in high-tech research with integration and teamwork cooperation。                                                                                                                    | ○ |
| F | 落實發掘問題、邏輯分析、克服瓶頸與持續學習之能力。<br>To fulfill the ability of question finding, logical analyzing, bottleneck overcoming and continuous learning。                                                                                                    | ● |
| G | 了解學術倫理與智慧財產觀念，掌握國內外產業更迭需求與具備多元專長之能力。<br>To obtain the ability of multi-specialization and to meet the industry demand as well as to have the ability of academic ethics and concept of intellectual property。                                 | ○ |
| H | 參與國際研討會了解國際市場變化與未來研究走向，具備純熟科技英文閱讀溝通寫作之能力。<br>To participate the conferences to understand the change of global market and the future trend as well as to have the skillful ability of reading, conversation and technical writing in English。 | ○ |

圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated

#### 課程大綱

#### Course Outline

This course will comprehensively survey and discuss emerging research topics in the area of networking, such as  
cloud computing,  
mobile computing,  
cross-layer optimization,  
cognitive and cooperative communication,  
QoS issues in next generation of internet,  
Intelligent networking,  
green networking and smart grid

資源需求評估 (師資專長之聘任、儀器設備的配合 . . . 等)

Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)

#### 課程要求和教學方式之建議

#### Course Requirements and Suggested Teaching Methods

Lectures and discussions; project executio

#### 其他

#### Miscellaneous