九十八學年度第二學期
國立清華大學電機工程學系「實作專題一」課程

課程名稱 : 實作專題一 Special Topic on Implementation(I)
課號 : EE3900–00

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課題 : 1. MIMO Communications
        2. Sensor and Relay Networks

專題類型 (可重覆勾選) : 產元器件 設計 電路設計 程式設計 系統實作 堆測實驗 系統
        操作與分析 其他( : 系統設計與模擬 )

希望人數(≧2)/組 : 3
可接受組數 : 2

希望學生具備之背景知識或建議選修課程 : Basic communication theory and probability theory

綱 要 (Synopsis)
1. a) Space-time code design
   b) Beamforming and its applications
   c) Game theory and its applications in MIMO networks
   d) Design of feedback systems in MIMO networks

2. a) Distributed algorithms and its applications in sensor/relay networks
   b) Cooperations in sensor/relay networks
   c) Design of efficient feedback systems in sensor/relay networks

預期成效 : 1. Students are expected to study an a specific topic by the following steps:
   1) do literature survey and pinpoint important papers for this topic,
   2) fully understand the contents of these papers by rederiving all the
      important theorems and reproducing the simulation results,
   3) critique these papers and figure out possible improvements or extensions,
      and
   4) implement the improvement and extensions proposed or pinpoint major
      challenges.

2. Same as above.