**元智大學電機通訊學院與太原理工大學雙聯學制**

**電機工程學系(甲組) 碩士班 必修科目表**

**（106學年度入學新生適用）**

**(Applicable to Students Admitted in Academic Year of 2017)**

106.04.26 一○五學年度第五次教務會議通過

Passed by the 5th Academic Affairs Meeting, Academic Year 2016, on April 26, 2017

107.05.02 一○六學年度第五次教務會議修訂通過

Amended by the 5th Academic Affairs Meeting, Academic Year 2017, on May 2, 2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 學年Year  學期Semester  科目Course | 第一學年  1st Academic Year | | 第二學年  2nd Academic Year | |
| 上Fall | 下Spring | 上Fall | 下Spring |
| 必  修  科  目  Required Course  （4） | 書報討論  (Seminar)  EE/EEA607  (1) | 書報討論  (Seminar)  EE/EEA607  (1) | 書報討論  (Seminar)  EE/EEA607  (1) | 書報討論  (Seminar)  EE/EEA607  (1) |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| 學期學分  小計  Total Credits | 1 | 1 | 1 | 1 |
| 備  註  Remarks | 1.最低畢業學分：最低畢業學分：34學分(包括碩士畢業論文6學分)，於元智電機所(甲組)應修畢業學分三分之一以上，即為12學分，其中包含碩士畢業論文6學分、及至少需修習必修「書報討論」2學分及選修課程4學分。  The students are required to take a minimum of 34 course credits to fulfill the graduation requirements; twelve course credits of the total credits required must be the Yuan Ze University graded credits. The 12 credits must include 2 credits of Seminar courses, 4 credits of elective courses, and 6 credits of Master’s Thesis.  2.在本校就讀至少須達二學期(含)以上，碩士論文之進行與要求悉依「碩博士共同指導協議書」與「必選修科目表」規定辦理。  Students are required to study at Yuan Ze University at least 2 semesters to fulfill the graduation requirement. The student who taking the Master’s Thesis shall refer to the regulation of「碩博士共同指導協議書」and「必選修科目表」.  3.「入學研究生須依本校學術研究倫理教育課程實施要點規定，於入學第一學期結束前完成學術研究倫理教育課程，最遲須於申請學位口試前補修完成，未完成本課程，不得申請學位口試。」  Graduate students are required to complete Academic Research Ethics Education Course before the end of their first academic semester according to the regulations of Yuan Ze University Academic Research Ethics Education Course Implementation Highlights. The latest deadline for the course completion should be before the application towards the degree’s oral exam. | | | |

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| 類別/組別  Group | 課號  Course Code | 中文課名  Course Title | 英文課名  Course Title | 學分數  Credits |
| --- | --- | --- | --- | --- |
| 數  位  科  技  組 | EE/EEA626 | 科技英文(一) | Research Communication(I) | 1 |
| EE/EEA627 | 科技英文(二) | Research Communication(II) | 1 |
| EE/EEA507 | 影像處理 | Image Processing | 3 |
| EE/EEA581 | 個人通訊服務網路 | Personal Communications Services Networks | 3 |
| EE/EEA610 | 樣型識別 | Pattern Recognition | 3 |
| EE/EEA623 | 生醫信號處理 | Biomedical Signal Processing | 3 |
| EE/EEA624 | 無線網際網路語音服務 | Wireless VoIP | 3 |
| EE/EEA625 | 計算機視覺 | Computer Vision | 3 |
| EE/EEA628 | 多媒體處理 | Multimedia Processing | 3 |
| EE/EEA632 | 醫學影像處理 | Medical Image Processing | 3 |
| EE/EEA649 | 計算機模擬 | Computer Simulation | 3 |
| EE/EEA647 | 家庭網路傳輸標準 | Transmission Standards of Digital Home Network | 3 |
| EE/EEA653 | 無線射頻辨識系統原理與應用 | Wireless Radio Recognition: Theory and Applications | 3 |
| EE/EEA652 | 電腦視覺於家庭保全之應用 | Computer Vision and Its Application to Home Care Services | 3 |
| EE/EEA654 | 網路模擬與實作 | Network Simulation and Implementation | 3 |
| EE/EEA655 | 高等計算機數學 | Advanced Computer Mathematics | 3 |
| EE/EEA656 | 影像處理演算法開發及應用 | Algorithms of Image Processing: Development and Applications | 3 |
| EE/EEA658 | 次世代網路專題與應用實作 | Special topics on next generation network and network implementation | 3 |
| EE/EEA659 | 應用導向之即時多媒體人機互動理論與實作 | Application-oriented Real-time Multimedia Human-computer Interaction: Theory and Development | 3 |
| EE/EEA672 | 雲端計算原理與實作 | Cloud Computing Principle and Practice | 3 |
| EE/EEA675 | 行動巨量資料分析與機器學習 | Mobile Big Data Analysis and Machine Learning | 3 |
| 備註  Remarks | 1.選課截止前須先徵詢指導教授同意並簽字。  2.確保執行，由組上發放選課清單表格給研究生填寫。  Students must complete a Course List Form with obtaining their advisor’s signature. | | | |

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| --- | --- | --- | --- | --- |
| 電  子  組 | EE/EEA626 | 科技英文(一) | Research Communication(I) | 1 |
| EE/EEA627 | 科技英文(二) | Research Communication(II) | 1 |
| EE/EEA531 | VLSI信號處理 | VLSI Signal Processing | 3 |
| EE/EEA580 | 類比積體電路設計 | Analog IC Design | 3 |
| EE/EEA588 | 數位VLSI設計 | Digital VLSI Design | 3 |
| EE/EEA608 | 高等VLSI系統設計 | The Advanced VLSI System Design | 3 |
| EE/EEA635 | 積體電路元件 | VLSI Devices | 3 |
| EE/EEA640 | 半導體奈米元件 | Nanoscale Semiconductor Devices | 3 |
| EE/EEA644 | 奈米CMOS元件 | Nanoscale CMOS Devices | 3 |
| EE/EEA648 | 混合信號IC設計 | Mixed Signal IC Design | 3 |
| EE/EEA650 | SOC 設計 | SOC Design | 3 |
| EE/EEA651 | 寬頻介面電路設計 | Wide Bandwidth Interface Circuit Design | 3 |
| EE/EEA657 | 高階數位訊號處理 | Advanced Digital Signal Processing | 3 |
| EE/EEA660 | 高速低功率積體電路設計 | High-Speed Low-power IC Design | 3 |
| EE/EEA664 | 進階積體電路專題實作I | Advanced Design and Implementation of Integrated Circuits I | 0 |
| EE/EEA665 | 進階積體電路專題實作II | Advanced Design and Implementation of Integrated Circuits II | 0 |
| EE/EEA666 | 進階積體電路專題實作III | Advanced Design and Implementation of Integrated Circuits III | 0 |
| EE/EEA667 | 進階積體電路專題實作IV | Advanced Design and Implementation of Integrated Circuits IV | 0 |
| EE/EEA674 | 多核心晶片設計實作 | Multicore Chip Design Laboratory | 3 |
| EE/EEA676 | 特殊應用積體電路設計 | ASIC Design | 3 |
| 備註  Remarks | 1.選課截止前須先徵詢指導教授同意並簽字。  2.確保執行，由組上發放選課清單表格給研究生填寫。  Students must complete a Course List Form with obtaining their advisor’s signature. | | | |

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 類別/組別  Group | 課號  Course Code | 中文課名  Course Title | 英文課名  Course Title | 學分數  Credits |
| 控  制  組 | EE/EEA626 | 科技英文(一) | Research Communication(I) | 1 |
| EE/EEA627 | 科技英文(二) | Research Communication(II) | 1 |
| EE/EEA505 | 線性系統理論 | Linear System Theory | 3 |
| EE/EEA509 | 隨機程序 | Random Processes for Engineers | 3 |
| EE/EEA529 | 隨機控制 | Stochastic Control | 3 |
| EE/EEA532 | 模糊控制 | Fuzzy Control | 3 |
| EE/EEA536 | 非線性系統控制 | Nonlinear Control Systems | 3 |
| EE/EEA537 | 可變結構控制 | Variable Structure Control | 3 |
| EE/EEA538 | 強健控制 | Robust Control | 3 |
| EE/EEA544 | 可適性訊號處理 | Adaptive Signal Processing | 3 |
| EE/EEA547 | 機器人學 | Robotics | 3 |
| EE/EEA569 | H ∞與LQG控制 | H∞ and LQG Control Theory | 3 |
| EE/EEA578 | 智慧型控制 | Intelligent Control | 3 |
| EE/EEA600 | 類神經網路 | Neural Network | 3 |
| EE/EEA602 | 適應控制 | Adaptive Control | 3 |
| EE/EEA636 | 信號偵測 | Signal Detection | 3 |
| EE/EEA638 | 隨機訊號處理 | Random Signal Processing | 3 |
| EE/EEA641 | 汽車電子 | Vehicular Electronic System | 3 |
| EE/EEA661 | 進階電力系統 | Advanced Power Systems | 3 |
| EE/EEA662 | 輸配電系統 | Electric Power Transmission and Distribution Systems | 3 |
| EE/EEA663 | 配電系統模擬 | Modeling and Simulation of Power Distribution Systems | 3 |
| EE/EEA668 | 電源轉換器設計 | Power Conversion Design | 3 |
| EE/EEA669 | 多目標控制 | Multiobjective Control | 3 |
| EE/EEA670 | 電力電子進階分析 | Advance Analysis of Power Electronics | 3 |
| EE/EEA671 | 電力線通訊原理與實作 | Power Line Communications in Practice | 3 |
| EE/EEA673 | 數值方法在系統工程之應用 | Numerical Methods in Systems Engineering | 3 |
| EE/EEA677 | 資料科學 | Data Science | 3 |
| EE/EEA678 | 進階資料科學 | Advanced Data Science | 3 |
| 備註  Remarks | 1.選課截止前須先徵詢指導教授同意並簽字。  2.確保執行，由組上發放選課清單表格給研究生填寫。  Students must complete a Course List Form with obtaining their advisor’s signature. | | | |

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