**元智大學　電機工程學系(丙組)碩士班 必修科目表**

**（112學年度入學新生適用）**

**Department of Electrical Engineering (Program C), Yuan Ze University**

**List of Required Courses for Master Program**

**(Applicable to Students Admitted in Academic Year of 2023)**

112.04.19 一一一學年度第六次教務會議通過

Passed by the 6th Academic Affairs Meeting, Academic Year 2022, on April 19, 2023

112.05.31 一一一學年度第七次教務會議通過

Amended by the 7th Academic Affairs Meeting, Academic Year 2022, on May 31, 2023

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 學年(Year)  學期(Semester)  科目(Course) | 第一學年 | | 第二學年 | |
| 上 | 下 | 上 | 下 |
| 必  修  科  目  (5)  Required Courses  (5 credits) | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) |
| 光電實驗  Electro-Optical Lab  EEC535  （1） |  |  |  |
|  |  |  |  |
| 學期學分小計  Subtotal | 2 | 1 | 1 | 1 |
| 備註  Remarks | 1. 最低畢業學分：34學分(包括碩士畢業論文6學分)   Students must take minimum of 34 credit hours (including 6 credit hours of thesis writing) to fulfill the graduation requirement.   1. 必修科目：5學分   A master’s student must take 5 credit hours of required subjects.  在學期間書報討論為必修科目，最多修四學期即可，若在四學期內提前畢業則不足之學分數由選修科目替補。光電實驗為必修科目1學分。 Seminar are required courses and may be repeated to a maximum of four semesters per degree program. Students applying for graduation within four semesters should use elective courses for substitutions. Electro-Optical Lab is the required course (1 credit hour)   1. 在修業年限內，選修科目至少需修畢23學分，本所選修至少17學分。   Of those subjects taken, at least 23 credit hours are from the elective subjects, in which at least 17 credit hours are from the elective subjects offered by the department of electrical engineering.   1. 本所學生修習電通學院各所之專業課程，皆予承認；但必修課程初次修課須在本所修讀始予承認。   Courses offered by every department in College of Electrical and Communication Engineering are acknowledged by the department of photonics engineering; however, the required courses of the same titles offered by other departments in the college are not acknowledged unless the ones offered by the department of photonics engineering are taken first.   1. 本地學生及母語為中文者，適用本表。   This form applies to local students and native speakers of Chinese   1. 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。」   For those graduate students who shall complete Academic Research Ethics Education Course before the end of their first academic semester, they must follow the regulations of Yuan Ze University Academic Research Ethics Education Course Implementation Highlights. The latest deadline for them shall be their course completions and then their applications towards the degree’s oral exam. | | | |
| 備註  Remarks | 1. 欲跨學制修課之學生，須填寫「元智大學課程跨學制申請表」，跨學制修課之學分數准予納入畢業學分，至多6學分。   Students who would like to apply for Cross-System Courses need to fill in the "Application for Cross-System Courses" form. Credits taken across academic systems are allowed to be counted as graduation credits, up to a maximum of 6 credits.   1. 研究生應於學位考試前完成論文原創性比對程序(Turnitin)，檢核結果之總相似度指標應符合本組規定之 30% 以下，並填妥「學位論文原創性比對檢核表」，連同原創性比對報告書全文（排除本人已發表論文、目錄、摘要大綱以及參考文獻）送交指導教授審查，並於學位考試當日，將「學位論文原創性比對檢核表」及「原創性比對報告書」送交學位考試委員參考。原創性比對報告書全文單一來源不得超過5%，排除本人已發表論文。References參考文獻要標註本人已發表論文。（請使用Turnitin軟體）。   Graduate students shall complete the process of thesis/dissertation plagiarism detection for originality assessment prior to the degree’s oral exam, and the level of total similarity is required to be less than 30%. In addition, the form entitled “Thesis Originality Assessment Checklist” along with the full report from the detection system (excluding his/her own published papers, the table of contents, the abstract, and the references therein) shall be reviewed by his/her advisor(s), and be handed in to all exam committee members for reference at the exam day. Regarding the report from the detection system, the percentage of similarity with a single source should not exceed 5%, excluding his/her own published papers. Please mark his/her own published papers in the reference list in the report. The software Turnitin is recommended as the detection system. | | | |

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**元智大學　電機工程學系(丙組)碩士班 選修科目表**

**（112學年度入學新生適用）**

**Department of Electrical Engineering (Program C), Yuan Ze University**

**List of Elective Courses for Master Program**

**(Applicable to Students Admitted in Academic Year of 2023)**

112.04.19 一一一學年度第六次教務會議通過

Passed by the 6th Academic Affairs Meeting, Academic Year 2022, on April 19, 2023

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 類別/組別 | 課號 | 中文課名 | 英文課名 | 學分數 |
| 選修科目  Elective Courses | EEC601 | 科技英文(一) | Research Communication(I) | 1 |
| EEC602 | 科技英文(二) | Research Communication(II) | 1 |
| EEC535 | 光電實驗 | Electro-Optical Lab | 1 |
| EEC503 | 半導體物理 | Semiconductor Physics | 3 |
| EEC504 | 光纖系統設計 | Design of Fiber Systems | 3 |
| EEC505 | 幾何光學 | GEECmetrical Optics | 3 |
| EEC508 | **光子晶體** | **Photonic Crystals** | 3 |
| EEC509 | 固態物理 | Solid-State Physics | 3 |
| EEC511 | 光學設計 | Optical Design | 3 |
| EEC512 | 光碟技術 | Optical Disc Technology | 3 |
| EEC513 | 電磁光學 | Electromagnetic Optics | 3 |
| EEC514 | 傅立葉光學 | Fourier Optics | 3 |
| EEC518 | 光電技術 | Opto-Electronic Technology | 3 |
| EEC519 | 液晶顯示光學 | Optics of Liquid Crystal Displays | 3 |
| EEC521 | 數值分析 | Numerical Analysis | 3 |
| EEC523 | 影像檢測技術 | Image Inspection and Detection Technique | 3 |
| EEC524 | 光通訊 | Optical Communication | 3 |
| EEC526 | 薄膜光學 | Thin Film optics | 3 |
| EEC527 | 繞射光學 | Diffractive optics | 3 |
| EEC528 | 電腦模擬設計與實作 | Coding Alchemy:Structure and Algorithms For Simulation | 3 |
| EEC529 | 微機電與奈米機電系統 | Micro and Nano Electro-Mechanical System, MEMS & NEMS | 3 |
| EEC530 | 光電子學 | Opto-Electronics | 3 |
| EEC531 | 半導體元件 | Semiconductor Devices | 3 |
| EEC532 | 液晶顯示器原理 | Principle of Liquid Crystal Displays | 3 |
| EEC533 | 奈米分析與檢測技術 | Analysis and Measurement Techniques for Nano Science and Technology | 3 |
| EEC534 | 雷射原理及應用 | Principles of Lasers and Applications | 3 |
| EEC537 | 高分子電子學中的實驗方法 | Methodologies in Organic Electronics | 2 |
| EEC539 | 全相術暨全相干涉術 | Holography and holographic Interferometry | 3 |
| EEC540 | 發光二極體原理與應用 | Principles and Applications of Light Emitting Diodes | 3 |
| EEC541 | 太陽能光電元件 | Photovoltaic Devices | 3 |
| EEC542 | 半導體製程技術導論 | Introduction to Semiconductor Manufacturing Technology | 3 |
| EEC543 | 有機發光元件與物理 | Organic light-emitting devices and physics | 3 |
| EEC544 | 光學模擬 | Optical Simulation | 3 |
| EEC545 | 計算光學 | Computational Optics | 3 |
| EEC546 | 矽光子學導論 | An Introduction to Silicon Photonics | 3 |
| EEC547 | 光機設計 | Optomechanical Design | 3 |
| EEC548 | 光罩導論 | An Introduction to Optical Lithography | 3 |
| EEC549 | 前瞻光電元件導論 | Introduction of the advanced optoelectronic devices | 3 |
| EEC550 | 半導體雷射動態 | Nonlinear Dynamics of Semiconductor Lasers | 3 |
| EEC551 | 薄膜工程 | Thin-film Technology | 3 |
| EEC561 | 機器學習與其應用 | Machine Learning and Its Applications | 3 |
| EEC562 | 量子力學 | Quantum Mechanics | 3 |
| EEC563 | 人工智慧與其應用 | Artificial Intelligence and its applications | 3 |
| EEC564 | 光電積體電路 | Electrooptical Integrated Circuits | 3 |
| EEC566 | 有機發光元件與投影機導論 | Introduction to Organic Light-Emitting Diodes and Projectors | 3 |
| EEC567 | 色度光度理論與量測 | Colorimetry: Fundamentals and Measurements | 3 |
| EEC568 | 專題與實習(一) | Project Study and Practical Training(I) | 3 |
| EEC569 | 專題與實習(二) | Project Study and Practical Training(II) | 3 |
| EEC573 | 視覺照明 | Lighting and Vision | 3 |
| 備註 |  | | | |

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**元智大學　電機工程學系(丙組) 外籍生碩士生修業規定**

**必修科目表**

**（112學年度入學新生適用）**

**Master’s Program of the Dept. of Electrical Engineering (Program C), YZU**

**Foreign Student Coursework Requirements**

**List of Required Courses for Master Program**

**(For Fall 2023 Admits)**

112.04.19 一一一學年度第六次教務會議通過

Passed by the 6th Academic Affairs Meeting, Academic Year 2022, on April 19, 2023

112.05.31 一一一學年度第七次教務會議通過

Amended by the 7th Academic Affairs Meeting, Academic Year 2022, on May 31, 2023

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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 Courses  （**4**） | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) | 書報討論  (Seminar)  EEC502  (1) |
| 學期學分小計  Subtotal | 1 | 1 | 1 | 1 |
| 備註  Remarks | 1. 最低畢業學分：34學分(包括碩士畢業論文6學分)   Students must take minimum of 34 credit hours (including 6 credit hours of thesis writing) to fulfill the graduation requirement.   1. 必修科目：4學分   A master’s student must take 4 credit hours of required subjects.  在學期間書報討論為必修科目，最多修四學期即可，若在四學期內提前畢業則不足之學分數由選修科目替補。免修光電實驗必修科目1學分。 Seminar are required courses and may be repeated to a maximum of four semesters per degree program. Students applying for graduation within four semesters should use elective courses for substitutions.  Also, EEC535 Electro-Optical Lab is not required for the foreign Students.   1. 在修業年限內，選修科目至少需修畢24學分，丙組選修至少12學分，需得到指導教授和組主任同意。   Of those subjects taken, at least 24 credit hours are from the elective subjects, in which at least 12 credit hours are from the elective subjects offered by the department of Electrical Engineering (Program C), subject to the approval of both the student’s thesis adviser and the chairperson of Program C.   1. 本所學生修習電通學院各所之專業課程，皆予承認；但必修課程初次修課須在本所修讀始予承認。   Courses offered by every department in College of Electrical and Communication Engineering are acknowledged by the department of photonics engineering; however, the required courses of the same titles offered by other departments in the college are not acknowledged unless the ones offered by the department of photonics engineering are taken first.   1. 外籍生母語非中文者，適用本表。   This form is applicable to those foreign students whose native tongue is not mandarin.   1. 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。」   For those graduate students who shall complete Academic Research Ethics Education Course before the end of their first academic semester, they must follow the regulations of Yuan Ze University Academic Research Ethics Education Course Implementation Highlights. The latest deadline for them shall be their course completions and then their applications towards the degree’s oral exam. | | | |
| 備註  Remarks | 1. 欲跨學制修課之學生，須填寫「元智大學課程跨學制申請表」，跨學制修課之學分數准予納入畢業學分，至多6學分。   Students who would like to apply for Cross-System Courses need to fill in the "Application for Cross-System Courses" form. Credits taken across academic systems are allowed to be counted as graduation credits, up to a maximum of 6 credits.   1. 研究生應於學位考試前完成論文原創性比對程序(Turnitin)，檢核結果之總相似度指標應符合本組規定之 30% 以下，並填妥「學位論文原創性比對檢核表」，連同原創性比對報告書全文（排除本人已發表論文、目錄、摘要大綱以及參考文獻）送交指導教授審查，並於學位考試當日，將「學位論文原創性比對檢核表」及「原創性比對報告書」送交學位考試委員參考。原創性比對報告書全文單一來源不得超過5%，排除本人已發表論文。References參考文獻要標註本人已發表論文。（請使用Turnitin軟體）。   Graduate students shall complete the process of thesis/dissertation plagiarism detection for originality assessment prior to the degree’s oral exam, and the level of total similarity is required to be less than 30%. In addition, the form entitled “Thesis Originality Assessment Checklist” along with the full report from the detection system (excluding his/her own published papers, the table of contents, the abstract, and the references therein) shall be reviewed by his/her advisor(s), and be handed in to all exam committee members for reference at the exam day. Regarding the report from the detection system, the percentage of similarity with a single source should not exceed 5%, excluding his/her own published papers. Please mark his/her own published papers in the reference list in the report. The software Turnitin is recommended as the detection system. | | | |

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**List of Elective Courses for Master Program**

**Department of Electrical Engineering (Program C) YZU**

112.04.19 一一一學年度第六次教務會議通過

Passed by the 6th Academic Affairs Meeting, Academic Year 2022, on April 19, 2023

| **Course Code** | **Course Title** | **Credits** |
| --- | --- | --- |
| EEC601 | Research Communication(I) | 1 |
| EEC602 | Research Communication(II) | 1 |
| EEC535 | Electro-Optical Lab | 1 |
| EEC503 | Semiconductor Physics | 3 |
| EEC504 | Design Of Fiber Systems | 3 |
| EEC505 | Geometrical Optics | 3 |
| EEC508 | **Photonic Crystals** | 3 |
| EEC509 | Solid-State Physics | 3 |
| EEC511 | Optical Design | 3 |
| EEC512 | Optical Disc Technology | 3 |
| EEC513 | Electromagnetic Optics | 3 |
| EEC514 | Fourier Optics | 3 |
| EEC518 | Opto-Electronic Technology | 3 |
| EEC519 | Optics Of Liquid Crystal Displays | 3 |
| EEC521 | Numerical Analysis | 3 |
| EEC523 | Image Inspection And Detection Technique | 3 |
| EEC524 | Optical Communication | 3 |
| EEC526 | Thin Film Optics | 3 |
| EEC527 | Diffractive Optics | 3 |
| EEC528 | Coding Alchemy: Structure And Algorithms For Simulation | 3 |
| EEC529 | Micro And Nano Electro-Mechanical System, Mems & Nems | 3 |
| EEC530 | Opto-Electronics | 3 |
| EEC531 | Semiconductor Devices | 3 |
| EEC532 | Principle Of Liquid Crystal Displays | 3 |
| EEC534 | Principles Of Lasers And Applications | 3 |
| EEC537 | Methodologies In Organic Electronics | 2 |
| EEC538 | Micro-Electro-Mechanical System | 3 |
| EEC539 | Holography And Holographic Interferometry | 3 |
| EEC540 | Principles And Applications Of Light Emitting Diodes | 3 |
| EEC541 | Photovoltaic Devices | 3 |
| EEC542 | Introduction To Semiconductor Manufacturing Technology | 3 |
| EEC543 | Organic Light-Emitting Devices And Physics | 3 |
| EEC544 | Optical Simulation | 3 |
| EEC545 | Computational Optics | 3 |
| EEC546 | An Introduction To Silicon Photonics | 3 |
| EEC547 | Optomechanical Design | 3 |
| EEC548 | An Introduction To Optical Lithography | 3 |
| EEC549 | Introduction Of The Advanced Optoelectronic Devices | 3 |
| EEC550 | Nonlinear Dynamics Of Semiconductor Lasers | 3 |
| EEC551 | Thin-Film Technology | 3 |
| EEC561 | Machine Learning And Its Applications | 3 |
| EEC562 | Quantum Mechanics | 3 |
| EEC563 | Artificial Intelligence and its applications | 3 |
| EEC564 | Electrooptical Integrated Circuits | 3 |
| EEC566 | Introduction to Organic Light-Emitting Diodes and Projectors | 3 |
| EEC567 | Colorimetry: Fundamentals and Measurements | 3 |
| EEC568 | Project Study and Practical Training(I) | 3 |
| EEC569 | Project Study and Practical Training(II) | 3 |
| EEC573 | Lighting and Vision | 3 |