**元智大學工業工程與管理學系 學程修業規定**

**111學年度入學新生適用**

**for Admission in Academic Year 2022: Fall 2022 & Spring 2023**

109.11.11 一○九學年度第二次教務會議修訂通過

Amended by the 2nd Academic Affairs Meeting, Academic Year 2019, on November 11, 2020

本系規劃之學程課程**限定在本系選修，**不開放外系課程抵免。若一門課同時有二個學程以上，只能擇一學程計算（資訊類課程除外）。IEM Program courses must be completed as listed. No substitution courses from outside of IEM department will be allowed. If the course is available in more than one Programs, it can only be counted once (except information/computer related courses).

1. 服務科學與資訊學程Service Science & Information Technology Program：

資訊類課程：12門選2門-6學分

Information Technology courses: Select 2 out of 10, total 6 credits

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分credits |
| IE120 | RFID概論 Introduction to RFID | 3 |
| IE226 | 系統分析與設計System Analysis and Design | 3 |
| IE235 | 資訊安全與規範Information Security and Policy | 3 |
| IE247 | 系統模擬與應用System Simulation and Applications | 3 |
| IE337 | 應用電子商務Practical Electronic Commerce | 3 |
| IE351 | 3D互動數位內容製作  Implementation of 3D Interactive Digital Content | 3 |
| IE356 | 行動應用程式設計與開發  Design and Development of Mobile Application | 3 |
| IE392 | 近代網路應用Networks and Contemporary Applications | 3 |
| IE408 | 管理資訊系統Management Information Systems | 3 |
| IE427 | 多媒體應用Multimedia Application | 3 |
| IE428 | 資料分析Data Analysis | 3 |
| IE438 | 深度學習神經網路概論與實作  Introduction and Practices to Deep Learning Neural Networks | 3 |

服務類課程：10門選3門-9學分(IE244服務科學導論為必修課程)

Service courses: Select 3 out of 8, total 9 credits (IE244 is required)

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分  credits |
| IE237  IE304 | 應用統計分析 Applied Statistical Analysis  統計建模與電腦化實作Statistical Modeling and Computerized Implementations (擇一) | 3 |
| IE244 | 服務科學導論  Introduction to Service Sciences | 3 |
| IE245 | 服務工程  Service Engineering | 3 |
| IE246  IE243 | 服務設計與創新  Service Design and Innovation  產品設計思維Product Design 　 (擇一) | **3** |
| IE313 | 人因工程（二）  Human Factors(II) | 3 |
| IE354 | 雲端科技與服務  Cloud Computing Technology and Services | 3 |
| IE375 | 專案管理  Project Management | 3 |
| IE376 | 醫療品質管理  Quality Management in Healthcare | 3 |
| IE423 | 服務業管理概論  Introduction to Service Management | 3 |
| IE443 | 服務經濟  Service Economics | 3 |

學程證書授與標準：凡取得以上資訊類課程2門及服務類課程3門之學分者，授與「服務與資訊學程」證書。Program Certificate requirement: 2 courses of Information & 3 courses of Service programs will issue certificate of “Service Science & Information Technology Program”.

1. 品質與資訊學程Quality Management & Information Technology Program：

資訊類課程：12門選2門-6學分

Information Technology courses: Select 2 out of 10, total 6 credits

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分credits |
| IE120 | RFID概論  Introduction to RFID | 3 |
| IE226 | 系統分析與設計  System Analysis and Design | 3 |
| IE235 | 資訊安全與規範  Information Security and Policy | 3 |
| IE247 | 系統模擬與應用  System Simulation and Applications | 3 |
| IE337 | 應用電子商務  Practical Electronic Commerce | 3 |
| IE351 | 3D互動數位內容製作  Implementation of 3D Interactive Digital Content | 3 |
| IE356 | 行動應用程式設計與開發  Design and Development of Mobile Application | 3 |
| IE392 | 近代網路應用  Networks and Contemporary Applications | 3 |
| IE408 | 管理資訊系統  Management Information Systems | 3 |
| IE427 | 多媒體應用  Multimedia Application | 3 |
| IE428 | 資料分析  Data Analysis | 3 |
| IE438 | 深度學習神經網路概論與實作  Introduction and Practices to Deep Learning Neural Networks | 3 |

品質類課程：8門選3門-9學分

Quality Management courses: Select 3 out of 7, total 9 credits

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分credits |
| IE230 | 工業組織與管理  Industrial Organization and Management | 3 |
| IE237 | 統計建模與電腦化實作  Statistical Modeling and Computerized Implementations | 3 |
| IE304 | 應用統計分析Applied Statistical Analysis | 3 |
| IE315 | 可靠度工程Reliability Engineering | 3 |
| IE326 | 工業安全Industrial Safety | 3 |
| IE391 | 品質保證理論與實務Principles and Practices of Quality Assurance | 3 |
| IE376 | 醫療品質管理Quality Management in Healthcare | 3 |
| IE407 | 全面品質管理Total Quality Management | 3 |

學程證書授與標準：凡取得以上資訊類課程2門及品質類課程3門之學分者，授與「品質與資訊學程」證書。Program Certificate requirement: 2 courses of Information & 3 courses of Quality related programs will issue certificate of “Quality Management & Information Technology Program”.

1. 製造與資訊學程Production Management & Information Technology Program：

資訊類課程：12門選2門-6學分

Information Technology courses: Select 2 out of 10, total 6 credits

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分credits |
| IE120 | RFID概論  Introduction to RFID | 3 |
| IE226 | 系統分析與設計  System Analysis and Design | 3 |
| IE235 | 資訊安全與規範  Information Security and Policy | 3 |
| IE247 | 系統模擬與應用  System Simulation and Applications | 3 |
| IE337 | 應用電子商務  Practical Electronic Commerce | 3 |
| IE351 | 3D互動數位內容製作  Implementation of 3D Interactive Digital Content | 3 |
| IE356 | 行動應用程式設計與開發  Design and Development of Mobile Application | 3 |
| IE392 | 近代網路應用  Networks and Contemporary Applications | 3 |
| IE408 | 管理資訊系統  Management Information Systems | 3 |
| IE427 | 多媒體應用  Multimedia Application | 3 |
| IE428 | 資料分析  Data Analysis | 3 |
| IE438 | 深度學習神經網路概論與實作  Introduction and Practices to Deep Learning Neural Networks | 3 |

製造類課程：8門選3門-9學分

Production Management courses: Select 3 out of 7, total 9 credits

|  |  |  |
| --- | --- | --- |
| 課號  course code | 課程名稱course name | 學分credits |
| IE122 | 基礎物聯網應用與實作  Fundamental Applications and Practices of Internet of Things | 3 |
| IE229 | 工作衡量與實驗  Work Measurement | 3 |
| IE302 | 工業自動化概論  Introduction to Industrial Automation | 3 |
| IE313 | 人因工程（二）  Human Factors(II) | 3 |
| IE322 | 物料管理  Material Management | 3 |
| IE346 | 電路板基礎工程  General Printed Circuit Board Technology | 3 |
| IE347 | 半導體製造工程  Introduction to Semiconductor Manufacturing Technology | 3 |
| IE410 | 系統工程  Systems Engineering | 3 |

學程證書授與標準：凡取得以上資訊類課程2門及製造類課程3門之學分者，授與「製造與資訊學程」證書。Program Certificate requirement: 2 courses of Information & 3 courses of Production related programs will issue certificate of “Production Management & Information Technology Program”.

**人因工程與設計學程**

**Human Factors and Design Program**

**111學年度入學新生適用**

**for Admission in Academic Year 2022: Fall 2022 & Spring 2023**

111.11.16 一一一學年度第二次教務會議通過

Amended by the 2nd Academic Affairs Meeting, Academic Year 2022, on November 16, 2022

**課程規劃Study Plan**

必修課程：4門選2門 (6學分)

Required Courses：Select 2 out of 4 as a total of 6 credits

|  |  |  |  |
| --- | --- | --- | --- |
| 課號  course code | 課程名稱course name | 必/選修  require/ elective | 學分credits |
| IE121 | 工業設計  Introduction to Industrial Design | 選修 | 3 |
| IE220 | 人因工程（一）  Human Factors(I) | 系必修 | 3 |
| IE243  AD115 | 產品設計思維Product Design  設計創作Design Studio(I) （擇一） | 選修  系必修 | 3  3 |
| IE313 | 人因工程（二）  Human Factors(II) | 選修 | 3 |

選修課程：13門選3門（9學分）

Elective Courses: Select 3 out of 13, as a total of 9 credits

|  |  |  |  |
| --- | --- | --- | --- |
| 課號 | 課程名稱 | 開課學系 | 學分 |
| IE122 | 基礎物聯網應用與實作  Fundamental Applications and Practices of Internet of Things | 工管IEM | 3 |
| IE237 | 統計建模與電腦化實作  Statistical Modeling and Computerized mplementations | 工管IEM | 3 |
| IE245 | 服務工程Service Engineering | 工管IEM | 3 |
| IE304 | 應用統計分析Applied Statistical Analysis | 工管IEM | 3 |
| IE351 | 3D互動數位內容製作  Implementation of 3D Interactive Digital Content | 工管IEM | 3 |
| IE356 | 行動應用程式設計與開發  Design and Development of Mobile Application | 工管IEM | 3 |
| IE375 | 專案管理  Project Management | 工管IEM | 3 |
| AD269 | 電腦輔助設計與製造  Computer-aided Design and Manufacture | 藝設系AD | 3 |
| ME388/AD313 | 藝術與設計創作（一）  Art & Design Studio(I) |  |  |
| AD314 | 藝術與設計創作（二）  Art & Design Studio(II) |  |  |
| AD446 | 互動科技裝置：實務與應用  Interactive Media Installation : Practice & Application |  |  |
| EE479 | 人機互動概論  Human-Computer Interaction |  |  |
| EE492 | 工程應用生理學  Bioengineering Physiology |  |  |

學程證書授與標準：

凡修畢學程課程十五學分(至少含必修課程六學分)，經學程負責單位審查無誤後，由工學院授與「人因工程與設計學程」學程證明書。

Program Certificate standard of issue: must compelete 15 credits of the program courses (with at least 6 credits of required courses); once approved by the authorized department, College of Engineering will issue the “Human Factors and Design Program” program certificate.

**電子化供應鏈學程**

**E-Supply Chain Management Program**

**111學年度入學新生適用**

**for Admission in Academic Year 2022: Fall 2022 & Spring 2023**

111.11.16 一一一學年度第二次教務會議通過

Amended by the 2nd Academic Affairs Meeting, Academic Year 2022, on November 16, 2022

**課程規劃Study Plan**

必修課程：共6學分 Required : Total 6 credits

|  |  |  |  |
| --- | --- | --- | --- |
| **課號**course code | **課程名稱**course name | **開課學系**Department | **學分數**credits |
| IE312  IM424  CM302  CM240 | 物流管理  Logistics Management  供應鏈管理導論  Introduction to Supply Chain Management  供應鏈管理  Supply Chain Management  全球電商與物流  E-Commerce and Logistics | 工管IEM  資管IM  管院CM  管院CM | 3 |
| IE352  CM350 | 國際物流管理  Internationl Logistics Management  全球運籌管理  Global Logistics Management | 工管IEM  管院CM | 3 |

**選修課程：至少選三門課程，共9學分**

**Elective : At least 3 courses, 9 credits**

|  |  |  |  |
| --- | --- | --- | --- |
| **課號**course code | **課程名稱**course name | **開課學系**Department | **學分數**credits |
| IE120 | RFID概論  Introduction to RFID | 工管IEM | 3 |
| IE322 | 物料管理Material Management | 工管IEM | 3 |
| IE342 | 採購管理Procurement Management | 工管IEM | 3 |
| IM 425  CM402 | 顧客關係管理  Customer Relationship Management  顧客關係管理  Customer Relationship Management | 資管IM  管院CM | 3 |
| IE435  IM320  CM408 | 行銷學Marketing  網路行銷Internet Marketing  網路行銷Internet Marketing | 工管IEM  資管IM  管院CM | 3 |
| IM322  CM208 | 企業資源規劃導論  Introduction to Enterprise Resources Planning  企業資源規劃  Enterprise Resource Planning | 資管IM  管院CM | 3 |
| IE353  CM207  IM426 | RFID資訊系統  RFID Information System  管理資訊系統  Management Information Systems  管理資訊系統（二）  Management Information Systems(II) | 工管IEM  管院CM  資管IM | 3 |
| IE235  IM409 | 資訊安全與規範  Information Security and Policy  資訊與法律  Information and Law | 工管IEM  資管IM | 3 |
| IE226  IM303 | 系統分析與設計  System Analysis and Design  系統分析與設計  System Analysis and Design | 工管IEM  資管IM | 3 |
| IE337  IM410  CM209 | 應用電子商務Practical Electronic Commerce  電子商務Electronic Commerce  電子商務Electronic Commerce | 工管IEM  資管IM  管院CM | 3 |

**學程證書授與標準：**

凡修畢六學分的必修課程及至少三門的選修課程，共十五學分，經學程負責單位審查無誤後，

由工學院授與「電子化供應鏈」學程證明書。

Program Certificate standard of issue: must complete 6 credits of required courses and at least 3 elective courses (total of 15 credits); once approved by the authorized department, College of Engineering will issue “E-Supply Chain Management Program”Program Certificate.

**工業4.0－智慧生產學程**

**Industry 4.0－Intelligent Production**

**111學年度入學新生適用**

**for Admission in Academic Year 2022: Fall 2022 & Spring 2023**

111. 01.05 一一○學年度第三次教務會議通過

Amended by the 3rd Academic Affairs Meeting, Academic Year 2021, on January 05, 2022

**必修課程：共3學分Required：Total 3 credits**

|  |  |  |  |
| --- | --- | --- | --- |
| **課號**  course code | **課程名稱**  course name | **開課學系**  Department | **學分數**credits |
| EG201 | 智慧生產概論  Introduction to Intelligent Production | 工程學院  College of Engineering | 3 |

**選修課程：至少選四門課 Elective: At least 4 courses**

|  |  |  |  |
| --- | --- | --- | --- |
| **課號**  course code | **課程名稱**course name | **開課學系**Department | **學分數**  credits |
| IE120 | RFID概論Introduction to RFID | 工管IEM | 3 |
| IE122 | 基礎物聯網應用與實作  Fundamental Applications and Practices of Internet of Things | 工管IEM | 3 |
| IE247 | 系統模擬與應用  System Simulation and Applications | 工管IEM | 3 |
| IE237  IE304 | 統計建模與電腦化實作  Statistical Modeling and Computerized Implementations  應用統計分析Applied Statistical Analysis （擇一） | 工管IEM | 3 |
| IE392 | 近代網路應用  Networks and Contemporary Applications | 工管IEM | 3 |
| IE428 | 資料分析Data Analysis | 工管IEM | 3 |
| IE302  ME335 | 工業自動化概論  Introduction to Industrial Automation  自動控制Automatic Control　 （擇一） | 工管IEM  機械ME | 3 |
| IE346  CH340 | 電路板基礎工程  General Printed Circuit Board Technology  印刷電路板製程  Printed Circuit Board Processing　 （擇一） | 工管IEM  化材CH | 3 |
| IE347  CH334 | 半導體製造工程  Introduction to Semiconductor Manufacturing Technology  半導體製程Semiconductor Processing （擇一） | 工管IEM  化材CH | 3 |
| ME384 | 人工智慧概論Introduction to Artificial Intelligence | 機械ME | 3 |
| ME385 | 感測器原理與應用Sensor Principles and Applications | 機械ME | 3 |
| ME411 | 機電整合Mechatronics Integration | 機械ME | 3 |
| ME415 | 可程式控制Sequential Programmable Control | 機械ME | 3 |
| ME441 | 自動化機械設計Machinery Design Practice(I) | 機械ME | 3 |

**學程證書授與標準：**凡修畢本學程必修課程一門、及至少四門的選修課程，共十五學分，經學程負責單位審查無誤後，由工學院授與「工業 4.0－智慧生產」學程證明書。Program Certificate standard of issue: must complete program required courses and at least 4 elective courses (total of 15 credits); once approved by the authorized department, College of Engineering will issue”Industry 4.0－Intelligent Production” Program Certificate.