111 學年度工業工程與管理系碩士班課程流程圖

Course Flow Chart for 2022 Fall and 2023 Spring Semester

Academic Year: 111 (Aug 2022~ Jul 2023)

Department: Department of Industrial Engineering and Management

Academic Degree: Master of Science (MS in Industrial Engineering and Management)

(111.03.09 110 學年度第二次系課程會議通過 Approved by the Second Department Curriculum Committee on Mar 9th,2022)

學分組合:講授時數-實習時數-學分數 Credit Format: Lecture Hours - Internship Hours - Total Credits

第一學年 First academic year		第二學年 Second academic year	
Fall Semester	Spring Semester	Fall Semester	Spring Semester
專業必修(計 11 學分) Department Required Courses (11 credits)			
研究方法 Research Method 3-0-3	科技論文寫作與專題討論 Technical Writing and Research Discussion 2-0-2	碩士論文 Master Thesis 3-0-3	碩士論文 Master Thesis 3-0-3
3-0-3	2-0-2	3-0-3	3-0-3
專業選修(至少應修 27 學分) Elective Courses: (at least 27 credits)			
工業工程與管理概論 Introduction to Industrial Engineering and Management 3-0-3		工業工程與管理專題(一) Special Topics on Industrial Engineering and Management (I) 3-0-3	工業工程與管理專題(二) Special Topics on Industrial Engineering and Management(□) 3-0-3

基礎專業課程 Courses for Professional Skills

作業研究學程

Fall Semester	Spring Semester	Fall Semester	Spring Semester
線性規劃 Linear Programming 3-0-3	隨機程序 Stochastic Processes 3-0-3	動態規劃 Dynamic Programming 3-0-3	
模糊理論與應用 Fuzzy Set Theory and Application 3-0-3	決策理論 Decision Theory 3-0-3	網路流通 Distribution Network 3-0-3	整體後勤支援系統分析 System Analysis of Overall Logistics Support 3-0-3
系統模擬 System Simulation 3-0-3	人工智慧 Artificial Intelligence 3-0-3		
作業研究 Operations Research 3-0-3	最佳化與啟發式演算法 Optimization and Heuristics 3-0-3		

資訊科技學程

Fall Semester	Spring Semester	Fall Semester	Spring Semester
大數據分析與機器學習 Big Data Analytics and Machine Learning 3-0-3	物件導向系統分析與設計 Object Oriented Systems Analysis and Design 3-0-3	資訊系統成效評估 Performance Evaluation of Information Technology 3-0-3	產業資訊化與智能管理 E-Business and intelligent management 3-0-3
	知識管理 Knowledge Management 3-0-3		

統計品管學程

Fall Semester	Spring Semester	Fall Semester	Spring Semester
數理統計學 Mathematical Statistics 3-0-3	可靠度工程 Reliability Engineering 3-0-3	預測與迴歸模式 Prediction and Regression 3-0-3	
高等品質管理 Advanced Quality Control 3-0-3	多變量分析 Multivariate Data Analysis 3-0-3	品質工程 Quality Engineering 3-0-3	全面品質管理 Total Quality Management 3-0-3
	實驗設計與分析 Experimental Design & Analysis 3-0-3		

人因工程學程

Fall Semester	Spring Semester	Fall Semester	Spring Semester
人因工程 Human Factor Engineering 3-0-3	人機介面 User Interface 3-0-3		
工業環境與安全 Industrial Environment and Safety 3-0-3	認知心理學 Cognitive Psychology 3-0-3		

生產製造學程

Fall Semester	Spring Semester	Fall Semester	Spring Semester
電腦輔助製造系統管理及控制 Computer-Aided Management and Control of Manufacturing Systems 3-0-3	高等設施規劃 Advanced Facility Planning 3-0-3	電腦整合製造 Computer Integration Manufacturing 3-0-3	精實生產管理 Lean Production Management 3-0-3
高等生產管理 Advanced Quality Control 3-0-3			

| 生產排程
Production Scheduling
3-0-3 | 高等企業資源規劃
Advanced Enterprise Resource Planning
3-0-3 | | |

特色領域課程 Courses for Specific Fields

<u>物流與供應鏈領域</u>

物流管理 Logistics management 3-0-3	全球供應鏈管理 Global Supply Chain Management 3-0-3	進階產業實務實習(一) Advanced Industry Internship (I) 0-6-3	進階產業實務實習(二) Advanced Industrial Internship (Ⅱ) 0-6-3
	全球運輸規劃 Global Transportation Planning 3-0-3	暑期進階產業實務實習(一) Summer Advanced Industry Internship(I) 0-4-2	
	供應鏈模式分析 Supply Chain Model and Analysis 3-0-3	暑期進階產業實務實習(二) Summer Advanced Industry Internship(Ⅱ) 0-4-2	
		暑期進階海外產業實務實習(一) Summer Overseas Advanced Industry Internship(I) 0-4-2	
		暑期進階海外產業實務實習(二) Summer Overseas Advanced Industry Internship(Ⅱ) 0-4-2	
		存貨理論 Inventory Theory 3-0-3	

<u>健康產業管理領域</u>

醫院管理工程 Hospital Management Engineering 3-0-3	醫務品質管理 Health Care Quality Management 3-0-3	電腦輔助檢測與診斷 Computer Aided Detection and Diagnosis 3-0-3
	醫療資訊系統 Introduction of Medical System 3-0-3	

本系碩士班最低畢業學分數為 38 學分(含論文 6 學分)
The minimum graduation credits required for graduate students are 38 credits, including 6 credits of master's thesis.