**Course Flow Chart for 2020 Fall and 2020 Spring Semester
Academic Year:** 109 (Aug 2020~ Jul 2021)

**Department:** Department of Industrial Engineering and Management

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

**(109.10.7 109學年度第一次系課程會議通過 Approved by the First Department Curriculum Committee on Oct 2nd,2020)**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Department Required Courses ( 11 credits)**  |
| 研究方法Research Method3-0-3 | 科技論文寫作與專題討論Technical Writing and Research Discussion 2-0-2 | 碩士論文Master Thesis3-0-3 | 碩士論文Master Thesis3-0-3 |
| 3-0-3 | 2-0-2 | 3-0-3 | 3-0-3 |
| **第一學年First academic year** | **第二學年Second academic year** |
| **Fall Semester** | **Spring Semester** | **Fall Semester** | **Spring Semester** |
| **專業選修Elective Courses: (at least 27 credits)**  |
| 工業工程與管理概論Introduction to Industrial Engineering and Management3-0-3 |  | 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(Ⅱ)3-0-3 |
| **Courses for Professional Skills** |
| 作業研究學程 |  |  |  |
|  | Decision Theory3-0-3 | Dynamic Programming3-0-3 | System Analysis of Overall Logistics Support3-0-3 |
| Linear Programming3-0-3 | Artificial Intelligence3-0-3 | Distribution Network3-0-3 |  |
| Stochastic Processes3-0-3 | Optimization and Heuristics3-0-3 |  |  |
| Fuzzy Theory and Application3-0-3 | Operations Research3-0-3 |  |  |
| System Simulation3-0-3 |  |  |  |
| 資訊科技學程 |  |  |  |
| Big Data Analysis and Machine Learning3-0-3 | Object Oriented Systems Analysis and Design3-0-3 | Performance Evaluation of Information Technology3-0-3 | E-Business and intelligent management3-0-3 |
|  | Knowledge Management3-0-3 |  |  |
| 統計品管學程 |  |  |  |
| Mathematical Statistics3-0-3 | Reliability Engineering3-0-3 | Prediction and Regression Model3-0-3 | Quality Engineering3-0-3 |
| Advanced Quality Control3-0-3 | Multivariate Data Analysis3-0-3 |  | Total Quality Management3-0-3 |
|  | Experimental Design & Analysis3-0-3 |  |  |
| 人因工程學程 |  |  |  |
| Human Factor Engineering3-0-3 | User Interface3-0-3 |  |  |
| Industrial Environment and Safety3-0-3 | Cognitive Psychology3-0-3 |  |  |
| 生產製造學程 |  |  |  |
| Computer-Aided Management and Control of Manufacturing Systems3-0-3 | Advanced Facility Planning3-0-3 | Computer Integration Manufacturing3-0-3 | Lean Production Management3-0-3 |
| Advanced Quality Control3-0-3 | Production Scheduling3-0-3 |  |  |
|  | Advanced Enterprise Resource Planning3-0-3 |  |  |
| **Courses for Specific Fields** |
| 物流與供應鏈領域 |  |  |  |
| Logistics management3-0-3 | Global Supply Chain Management3-0-3 | Advanced Industrial Internship (I)0-6-3 | Advanced Industrial Internship (Ⅱ)0-6-3 |
|  | Global Transportation Planning3-0-3 | Summer Advanced Industrial Internship(I)0-4-2 |  |
|  | Supply Chain Model and Analysis3-0-3 | Summer Advanced Industrial Internship(Ⅱ)0-4-2 |  |
|  |  | Summer Overseas Advanced Industrial Internship(I)0-4-2 |  |
|  |  | Summer Overseas Advanced Industrial Internship(Ⅱ)0-4-2 |  |
|  |  | Inventory Theory3-0-3 |  |
| 健康產業管理領域 |  |  |  |
| Hospital Management Engineering3-0-3 | Health Care Quality Management3-0-3 | Computer Aided Detection and Diagnosis3-0-3 |  |
|  | Introduction of Medical System3-0-3 |  |  |
| **The minimum graduation credits required for graduate students are 38 credits, including 6 credits of master’s thesis.** |
| 本系碩士班最低畢業學分數為38學分(含論文6學分) |