**Academic Year:** 106 (Aug 2017~ Jul2018)

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

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

**Require courses:** 106.11.22updated

|  |  |
| --- | --- |
| **First Year** | **Second Year** |
| **1st semester** | **2nd semester** | **1st semester** | **2nd semester** |
| Require courses for Department (Total 11credits) |
| Research Method 3-0-3 | Technical Writing and Research Discussion 2-0-2 | Master Thesis 3-0-3 | Master Thesis 3-0-3 |
| 3-0-3 | 2-0-2 | 3-0-3 | 3-0-3 |
| **Required Courses:** 38 Credits (including Master Thesis：6 Credits) |
| **Selected Courses:** at least 27 Credits for required |

Selected courses:

|  |  |
| --- | --- |
| **First Year** | **Second Year** |
| **1st semester** | **2nd semester** | **1st semester** | **2nd semester** |
| **Selected Courses:** at least 27 Credits for required |
| Introduction to Industrial Engineering and Management 3-0-3 |  | Special Topics on Industrial Engineering and Management (一)3-0-3 | Special Topics on Industrial Engineering and Management (二)3-0-3 |
| **Courses for Professional Skills** |
| Operations Research3-0-3 | Decision Theory 3-0-3 | Dynamic Programming3-0-3 | System Analysis of Overall Logistics Support3-0-3 |
| Linear Programming3-0-3 | Artificial Intelligence3-0-3 | Distribution Network 3-0-3 |  |
| Stochastic Processes3-0-3 | Optimization and Heuristics3-0-3 |  |  |
| Fuzzy Theory and Application3-0-3 |  |  |  |
| System Simulation3-0-3 |  |  |  |
| Big Data Analysis and Machine Learning3-0-3 | Object Oriented Systems Analysis and Design3-0-3 |  |  |
|  | Knowledge Management3-0-3 |  |  |
| Mathematical Statistics 3-0-3 |  |  |  |
| Advanced Quality Control3-0-3 | Reliability Engineering3-0-3 | Prediction and Regression Model3-0-3 | Quality Engineering3-0-3 |
| Human Factor Engineering3-0-3 | Multivariate Data Analysis3-0-3 |  | Total Quality Management 3-0-33-0-3 |
| Industrial Environment and Safety3-0-3 | Experimental Design & Analysis3-0-3 |  |  |
| Computer-Aided Management and Control of Manufacturing Systems3-0-3 | User Interface3-0-3 |  |  |
| Advanced Quality Control3-0-3 | Cognitive Psychology3-0-3 |  |  |
|  | Advanced Facility Planning3-0-3 | Computer Integration Manufacturing3-0-3 | Lean Production Management 3-0-3 |
|  | Production Scheduling3-0-3 |  |  |
|  | Advanced Enterprise Resource Planning3-0-3 |  |  |
| **Courses for Specific Fields** |
| 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 |  |
|  |  | Summer Advanced Industrial Internship(Ⅱ) 0-4-2 |  |
|  |  | Summer Overseas Advanced Industrial Internship(I) 0-4-2 |  |
|  |  |  |  |
| Hospital Management Engineering 3-0-3 | Health Care Quality Management3-0-3 | Summer Overseas Advanced Industrial Internship(Ⅱ) 0-4-2 |  |
|  | Introduction of Medical System3-0-3 | Computer Aided Detection and Diagnosis3-0-3 |  |
| **Required Courses**：38 Credits (including Master Thesis：6 Credits) |

**Academic Year:** 107 (Aug 2018~ Jul2019)

**Department:** Department of Logistic&Supply Chain Management

**Academic Degree:** Master of Science (MS in Logistic&Supply Chain Management)

**Require courses:** 107.09.05updated

|  |  |
| --- | --- |
| **First Year** | **Second Year** |
| **1st semester** | **2nd semester** | **1st semester** | **2nd semester** |
| Require courses for Department (Total 11credits) |
| Research Method 3-0-3 | Technical Writing and Research Discussion 2-0-2 | Master Thesis 3-0-3 | Master Thesis 3-0-3 |
| 3-0-3 | 2-0-2 | 3-0-3 | 3-0-3 |
| 組專業必修(計3學分) |  |  |  |
| Logistics management3-0-3 |  |  |  |
| **Required Courses:** 38 Credits (including Master Thesis：6 Credits) |
| **Selected Courses:** at least 24 Credits for required |

Selected courses:

|  |
| --- |
| **Selected Courses**: at least18 Credits for required |
| **First Year** | **Second Year** |
| **2nd semester** | **1st semester** | **2nd semester** | **1st semester** |
|  |  |  |  |
|  | Global Logistics Information System 3-0-3 |  |  |
|  | Global Supply Chain Management3-0-3 |  | Analysis of Integrated Logistics Support System3-0-3 |
|  | Supply Chain Model and Analysis 3-0-3 |  |  |
|  | Global Transportation Planning3-0-3 |  |  |
| Fuzzy Theory and Application3-0-3 | Production Scheduling3-0-3 |  |  |
| Advanced Production Management3-0-3 | Artificial Intelligence3-0-3 | Inventory Theory3-0-3 |  |
| Advanced Quality Control3-0-3 | Optimization and Heuristics3-0-3 |  |  |
|  | Advanced Facility Planning3-0-3 |  |  |
| International Business Management3-0-3 |  | Business Strategy3-0-3 | International Marketing3-0-3 |
| System Simulation3-0-3 | Advanced Enterprise Resource Planning3-0-3 |  |  |
| Big Data Analysis and Machine Learning3-0-3 | Object Oriented Systems Analysis and Design 3-0-3 |  | E-Business3-0-3 |
|  |  | **Advanced Industrial Internship** (I)0-6-3 | **Advanced Industrial Internship** (Ⅱ)0-6-3 |
|  |  | Summer Advanced Industrial Internship(I) 0-4-2 |  |
|  |  | 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 |  |

 **Required Courses:** 38 Credits (including Master Thesis：6 Credits)