**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 Research  3-0-3 | | Decision Theory  3-0-3 | Dynamic Programming  3-0-3 | System Analysis of Overall Logistics Support  3-0-3 |
| Linear Programming  3-0-3 | | Artificial Intelligence  3-0-3 | Distribution Network  3-0-3 |  |
| Stochastic Processes  3-0-3 | | Optimization and Heuristics  3-0-3 |  |  |
| Fuzzy Theory and Application  3-0-3 | |  |  |  |
| System Simulation  3-0-3 | |  |  |  |
| Big Data Analysis and Machine Learning  3-0-3 | | Object Oriented Systems Analysis and Design  3-0-3 |  |  |
|  | | Knowledge Management  3-0-3 |  |  |
| Mathematical Statistics  3-0-3 | |  |  |  |
| Advanced Quality Control  3-0-3 | | Reliability Engineering  3-0-3 | Prediction and Regression Model  3-0-3 | Quality Engineering  3-0-3 |
| Human Factor Engineering  3-0-3 | | Multivariate Data Analysis  3-0-3 |  | Total Quality Management 3-0-3  3-0-3 |
| Industrial Environment and Safety  3-0-3 | | Experimental Design & Analysis  3-0-3 |  |  |
| Computer-Aided Management and Control of Manufacturing Systems  3-0-3 | | User Interface  3-0-3 |  |  |
| Advanced Quality Control  3-0-3 | | Cognitive Psychology  3-0-3 |  |  |
|  | | Advanced Facility Planning  3-0-3 | Computer Integration Manufacturing  3-0-3 | Lean Production Management  3-0-3 |
|  | | Production Scheduling  3-0-3 |  |  |
|  | | Advanced Enterprise Resource Planning  3-0-3 |  |  |
| **Courses for Specific Fields** | | | | |
| Logistics management  3-0-3 | | Global Supply Chain Management  3-0-3 | **Advanced Industrial Internship** (I)  0-6-3 | **Advanced Industrial Internship** (Ⅱ)  0-6-3 |
|  | | Global Transportation Planning  3-0-3 | 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 Management  3-0-3 | Summer Overseas Advanced Industrial Internship(Ⅱ)  0-4-2 |  |
|  | | Introduction of Medical System  3-0-3 | Computer Aided Detection and Diagnosis  3-0-3 |  |
| **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 management  3-0-3 |  |  |  |
| **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 Management  3-0-3 |  | Analysis of Integrated Logistics Support System  3-0-3 | |
|  | | Supply Chain Model and Analysis  3-0-3 |  |  | |
|  | | Global Transportation Planning  3-0-3 |  |  | |
| Fuzzy Theory and Application  3-0-3 | | Production Scheduling  3-0-3 |  |  | |
| Advanced Production Management  3-0-3 | | Artificial Intelligence  3-0-3 | Inventory Theory  3-0-3 |  | |
| Advanced Quality Control  3-0-3 | | Optimization and Heuristics  3-0-3 |  |  | |
|  | | Advanced Facility Planning  3-0-3 |  |  | |
| International Business Management  3-0-3 | |  | Business Strategy  3-0-3 | International Marketing  3-0-3 | |
| System Simulation  3-0-3 | | Advanced Enterprise Resource Planning  3-0-3 |  |  | |
| Big Data Analysis and Machine Learning  3-0-3 | Object Oriented Systems Analysis and Design  3-0-3 | |  | | E-Business  3-0-3 |
|  |  | | **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)