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

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

**Academic Degree:** Master of Science (MS)

**Require courses:** 106.11.22updated

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| **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:

|  |  |  |  |  |
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| **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 | | Discrete Optimization  3-0-3 |  |  |
| Fuzzy Theory and Application  3-0-3 | |  |  |  |
| System Simulation  3-0-3 | |  |  |  |
| Stochastic models in Production systems  3-0-3 | | Reliability Engineering  3-0-3 | Prediction and Regression Model  3-0-3 | Quality Engineering  3-0-3 |
| Mathematical Statistics  3-0-3 | | Multivariate Data Analysis  3-0-3 |  |  |
| Advanced Quality Control  3-0-3 | | Experimental Design & Analysis  3-0-3 |  |  |
| Human Factor Engineering  3-0-3 | | User Interface  3-0-3 |  |  |
| Industrial Environment and Safety  3-0-3 | | Cognitive Psychology  3-0-3 |  |  |
| Computer-Aided Management and Control of Manufacturing Systems  3-0-3 | | Advanced Facility Planning  3-0-3 | Computer Integration Manufacturing  3-0-3 |  |
| Advanced Production Management  3-0-3 | | Production Scheduling  3-0-3 |  |  |
| Big Data Analysis and Machine Learning  3-0-3 | | Object Oriented Systems Analysis and Design  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 Practice Research (I)  0-6-3 | Advanced Industrial Practice Research  (Ⅱ)  0-6-3 |
| Hospital Management Engineering  3-0-3 | | Global Transportation Planning  3-0-3 | Summer Advanced Industrial Internship(I)  0-4-2 |  |
|  | | Knowledge Management  3-0-3 | Summer Advanced Industrial Internship(Ⅱ)  0-4-2 |  |
|  | | Health Care Quality Management  3-0-3 | Summer Overseas Advanced Industrial Internship(I)  0-4-2 |  |
|  | | Introduction of Medical System  3-0-3 | Summer Overseas Advanced Industrial Internship(Ⅱ)  0-4-2 |  |
|  | |  | Computer Aided Detection and Diagnosis  3-0-3 |  |
| **Required Courses**：38 Credits (including Master Thesis：6 Credits) | | | | |

Department: Department of Industrial Engineering and Management (**In-Serves Graduate Program**)

Academic Degree: Master of Science (MS)

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| **First Year** | | |  | | | | **Second Year** | | |
| **1st semester** | | **2nd semester** | | **Summer Remedial Course** | **1st semester** | | | **2nd semester** | |
| **Require courses for Department :**Total 6 credits | | |  | | | |  | | |
|  |  | | |  | | Master Thesis  3-0-3 | | | Master Thesis  3-0-3 |
| **Require courses** :Total 15 credits | | | | | | | | | |
| Statistics  3-0-3 | Research Method  3-0-3 | | | Customer Relationship Management  3-0-3 | | Advanced Quality Control  3-0-3 | | | Decision Analysis and Management  3-0-3 |
| Operations Research 3-0-3 | Advanced Production Management  3-0-3 | | | Total Quality and Six Sigma Management  3-0-3 | | Industry Informatization and Intelligent Management  3-0-3 | | | Reliability Engineering and Management  3-0-3 |
| Innovation and Strategy Management  3-0-3 | Application of Internet of Things and Large Data Analysis  3-0-3 | | | Advanced Industry Management Practice  3-0-3 | | Inventory Management and Analysis  3-0-3 | | | Enterprise Resource Planning  3-0-3 |
| Project Management  3-0-3 | The Application of Data Analysis  3-0-3 | | | Advanced Office Automation  3-0-3 | | Global Supply Chain Management  3-0-3 | | |  |
| Human Resources Management  3-0-3 | Organizational Behavior and Management  3-0-3 | | |  | |  | | |  |
| Financial Management  3-0-3 | Process Reengineering and Simulation  3-0-3 | | |  | |  | | |  |
| Lean Production Management  3-0-3 | Human Factors Engineering in Industrial Application  3-0-3 | | |  | |  | | |  |
| **Required Courses**：36 Credits (including Master Thesis：6 Credits) | | | | | | | | | |

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

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

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

**Require courses:** 106.11.22updated

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| **First Year** | | **Second Year** | |
| **1st semester** | **2nd semester** | **1st semester** | **2nd semester** |
| **Require courses for Department :**Total 11 credits | | | |
| 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 |
| **Require courses** :Total 6 credits | | | |
| Logistics management  3-0-3 |  |  |  |
| Operations Research and Network Flows  3-0-3 |  |  |  |
| 6-0-6 |  |  |  |
| **Selected Courses:** at least21 Credits for required | | | |
| **Required Courses:**38 Credits (including Master Thesis：6 Credits) | | | |

Selected courses:

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| **Selected Courses**: at least18 Credits for required | | | | | | |
| **First Year** | | | | **Second Year** | | |
| **2nd semester** | | | **1st semester** | **2nd semester** | **1st semester** | |
|  | | |  |  |  | |
|  | | 全球運籌資訊系統  3-0-3 |  |  | |
|  | | Global Supply Chain Management  3-0-3 | Supply Chain Model and Analysis  3-0-3 | Analysis of Integrated Logistics Support System  3-0-3 | |
|  | | Global Transportation Planning  3-0-3 |  |  | |
|  | | Production Scheduling  3-0-3 |  |  | |
| Fuzzy Theory and Application  3-0-3 | | Artificial Intelligence  3-0-3 | Inventory Theory  3-0-3 |  | |
| Advanced Production Management  3-0-3 | | Discrete Optimization  3-0-3 |  |  | |
| Advanced Quality Control  3-0-3 | | Advanced Facility Planning  3-0-3 |  |  | |
| Big Data Analysis and Machine Learning  3-0-3 | | Object Oriented Systems Analysis and Design  3-0-3 |  | International Marketing  3-0-3 | |
| International Business Management  3-0-3 | | Advanced Enterprise Resource Planning  3-0-3 | Business Strategy  3-0-3 | E-Business  3-0-3 | |
| System Simulation  3-0-3 |  | | Advanced Industrial Practice Research (I)  0-6-3 | | Advanced Industrial Practice Research  (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 | |  |

Department: Department of Industrial Engineering and Management (**In-Serves Graduate Program**)

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

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| **First Year** | |  | **Second Year** | | | |
| **1st semester** | **2nd semester** | **Summer Remedial Course** | **1st semester** | **2nd semester** | | |
| **Require courses for Department :**Total 6credits | | | | | | |
|  |  |  | Master Thesis  3-0-3 | Master Thesis  3-0-3 | | |
| **Require courses** :Total 15 credits | |  |  | | | |
| Statistics  3-0-3 | Research Method 3-0-3 |  | Global Supply Chain Management  3-0-3 | |  | |
| Operations Research and Network Flows  3-0-3 | Global Supply Chain Management  3-0-3 |  |  | |  | |
| **Selected Courses:** at least18 Credits for required | | | | | | |
| Strategic Management  3-0-3 | Marketing Management  3-0-3 | Customer Relationship Management  3-0-3 | E-Business and Information Management  3-0-3 | | | Enterprise Resource Planning  3-0-3 |
| Project Management  3-0-3 | The Application of Data Analysis  3-0-3 | Advanced Industrial Internship  3-0-3 | Inventory Management and Analysis  3-0-3 | | | Decision Analysis and Management  3-0-3 |
| Organizational Behavior and Management  3-0-3 | Human Resources Management  3-0-3 | Advanced Office Automation  3-0-3 | Advanced Quality Control  3-0-3 | | |  |
| Financial Management  3-0-3 | Process Reengineering and Simulation  3-0-3 |  |  | | |  |
|  | Advanced Production Management  3-0-3 |  |  | | |  |
| **Required Courses:**39 Credits (including Master Thesis：6 Credits) | | | | | | |