

## Master of Industrial Engineering

### Introduction

The graduates of the Master Program of Industrial Engineering will possess skill sets related to human capital, machines, methods, finances, materials, information technology, and the environment. With those, the graduates can manage all forms of organizational resources to achieve organizational goals efficiently.

Besides, the graduates should also have the capability to provide companies with constructive mindsets, adding values to companies and increasing the organization's competitiveness. With those skill sets, the graduates can contribute to organizational management and others related to logistics and supply management. Those parts of organizations are well known to be the backbone of any modern organization to compete globally.

BINUS UNIVERSITY is the leading educational institution not only in Indonesia but in the world, ranked 7th among all universities in Indonesia, according to QS World University Ranking. Industrial Engineering is a part of the university graduate programs.

The graduate education program in industrial engineering is designed to meet the industrial needs to become the leaders in logistics, supply chain, and quality management industries. BINUS Graduate Program provides a curriculum that emphasizes subjects mixing engineering and information technology to facilitate the development of analytic and strategic thinking.

The graduates of the Industrial Engineering Program will have the competency to become a leader in industrial management and supply chain engineering. Besides, the graduates may also play significant roles as consultants for solving issues in any organization, including performing assessment and evaluation of the effectiveness and efficiency of industrial systems.

### Vision

A world respected Graduate Program of Industrial Engineering that fosters and empowers the society and serves the nation.

### Mission

The mission of Master of Industrial Engineering are to:

1. Educate BINUSIAN to conduct research practice in Industrial Engineering field that meets global standards,
2. Make Indonesia a better place through multidisciplinary research with Industrial Engineering as the core,
3. Develop and foster BINUSIAN to stay abreast with technology advancement for higher education needs in Industrial Engineering area, and
4. Empower society with knowledge, innovation, and exemplary characters of Industrial Engineering.

### Program Objective

The program objectives (PO) are:

1. To provide graduates with Industrial Engineering's best practices to attain the global competitiveness in supply chain and industrial management,
2. To provide graduates with research and development skill set for knowledge advancement in Industrial Engineering for strategic advantage, and

- To provide graduates with technology advancement to empower society with knowledge, innovation, and exemplary characters of Industrial Engineering.

### Student Outcomes

After completing the study, graduates are:

- Able to solve complex industrial engineering related problems by applying relevant skill sets;
- Able to optimize industrial engineering related systems by applying relevant skill sets;
- Able to solve complex research problems by applying industrial engineering principles;
- Able to elaborate effectively the developed engineering solutions with a range of audiences;
- Able to synthesize technological advancement in industrial engineering to empower the society.

### Prospective Career of the graduates

The graduates of the Master Program of Industrial Engineering have the opportunity to fill the positions at prestigious firms for various roles, such as the Industrial Engineering Function Division Top Management, Supply Chain Engineer, Engineering Consultant, Project Manager, Quality Engineer, Manufacturing Engineer, Production Engineer, Human Resources Management, Lecturer, and Researcher.

### Curriculum

The Master Program of Industrial Engineering is designed to comply with national and international curriculum standards related to Industrial Engineering. The curriculum emphasizes courses that provide students with the hard and soft skills required to perform responsibilities in management, leadership, and engineering of the modern era of Industry 4.0.

### Course Structure

#### SEMESTER 1

Course		SCU
ISYE8027045	Advanced Supply Chain & Operational Excellence	4
ISYE8023045	Advanced System Simulation and Modeling	4
ISYE8016045	Industrial System Design	4
STAT8006045	Statistical Analysis & Research Methodology	4
<b>Total SCU</b>		<b>16</b>

#### SEMESTER 2

Course		SCU
RSCH8126045	Pre-Thesis	2
ISYE8022045	Engineering Optimization	4
ISYE8031045	Research Writing I	1
ISYE8014045	Quality Assurance & Total Quality Management	4
<b>Total SCU</b>		<b>11</b>

**SEMESTER 3**

Course		SCU
ISYE8032045	Research Writing II	1
RSCH8166045	Research Publication	4
RSCH8127045	Thesis	4
<b>Free Electives</b>		4
<b>Total SCU</b>		<b>13</b>
<b>Cumulative SCU</b>		<b>40</b>

**Free Electives:**

-) Free Electives, students are required to choose from the list of Free Electives in Appendix.

**Appendix: Free Electives**

No	Course Owner Department	Course Code	Course Name	SCU	Semester
1	Master of Computer Science	COMP8035041	Big Data Analytics	4	3
2	Master of Computer Science	COMP8047041	Business Intelligence and Analytics	4	3
3	Master of Computer Science	COMP8046041	Fundamental of Cyber Security	4	3
4	Master of Information Systems Management	ISYS8050042	Digital Business and Transformation	4	3
5	Master of Information Systems Management	ISYS8052042	Advanced Topics in Management Information Systems	4	3
6	Master of Industrial Engineering	ISYE8015045	Selected Topic in Industrial Engineering	4	3
7	Master of Communication	COMM8003043	Media Relation Strategy	4	3
8	Master of Communication	COMM8007043	Branding in Strategic Communication	4	3
9	Master of Communication	COMM8011043	Management of Media Convergence	4	3
10	Master of Accounting	ACCT8018044	Risk Management and Risk Decision Analytics	4	3
11	Master of Accounting	ACCT8008044	Cases on Forensic Accounting and Corporate Governance	4	3
12	Master of Design	ENTR8020067	Design Innovation in Business	4	3
13	Master of Design	DSGN8004067	Design for Sustainability	4	3