

Industrial Engineering and Management Masters Program



Profile



The history of Masters Study Program of Industrial Engineering and Management, Bandung Institute of Technology began in 1978. This master study program is an extension of the Undergraduate Study Program of Industrial Engineering (IE) that was officially established in 1971 and a pathway for continuing onto a doctoral program. The curriculum is designed to be more specialized and aligned with the discipline of Industrial Engineering and Engineering Management. The specialization aims to accommodate the development of this discipline through Masters and Doctoral research.

IE&M has developed five dual-degree programs with foreign university partners, i.e., Hiroshima University Japan, National Chiao Tung University Taiwan, National Taiwan University of Science and Technology Taiwan, Chung Yuan Christian University Taiwan, and Ecole des Mines de Nantes France.



Contact Us



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Program Objectives

1. Graduates will have competencies to work and conduct research in a broad range of industrial sector and be capable to apply and develop knowledge and techniques used in Industrial Engineering and Management.
2. Graduates will have readiness to pursue advanced degrees in professional or academic oriented education.
3. Graduates will demonstrate abilities to play important roles at the operational or managerial level of various organizations.

Concentration Options

1. Ergonomics, Work Engineering and Work Safety

This specialization studies humans and the ability for designing an integrated system and engineered performance of work system. It includes; physiological, psychological, biomechanical, and sociological aspects in designing and improving man-machine systems and its work environment. This specialization emphasizes on improvement of technology utility, safety, and quality of work environment.

2. Manufacturing System

This specialization focuses on design, improvement, implementation, and operation of manufacturing systems and production system network in order to transform customer needs into product design and furthermore to manufacture and assemble final products according to customer demand with high quality, a competitive price, and on time delivery.

3. Industrial Management

This specialization focuses on managerial aspects in order to design, improve, install, and operate the integrated system. The specialization involves areas but is not limited to organizational design and development, innovation management, and engineering management.

4. Information System and Decisions

This specialization focuses on design and improvement of enterprise system by utilizing information system and the aspects of decision making processes in the organization to design, improve, and operate an enterprise.

5. Industrial System and Supply Chain

This specialization focuses on design, improvement, installation, and operation of integrated systems at macro level where the relationship between companies in industrial sector become the object of study.



Student Outcomes



The curriculum of Industrial Engineering and Management Masters Program is designed to produce graduates with the following student outcome:

- an ability to apply knowledge of mathematics, science, and engineering to industrial engineering and management area.
- an ability to design and conduct experiments, as well as to analyze and interpret data.
- an ability to design and/or manage a system, component, or process consist of people, materials, equipment, information, equipment, and energy to meet desired needs within realistic constraints
- an ability to function on multidisciplinary or cross-cultural team.
- an ability to identify, formulate, and solve industrial engineering and management problems.
- an understanding of professional and ethical responsibility.
- an ability to communicate effectively.
- the broad education necessary to understand the impact of industrial engineering and management solutions in a global, economic, environmental, and societal context.
- a recognition of the need for, and an ability to engage in life-long learning.
- a knowledge of contemporary issues relevant to industrial engineering and management.
- An ability to use the techniques, skills, and modern engineering tools necessary for industrial engineering and management practices.
- An ability to develop and execute research activities in industrial engineering and management area

Curriculum

Matriculation Program (tentative)	Credits
Quantitative Method	2
Man-Machine System	2
Cost Analysis & Engineering Economics	2
Industrial Engineering Analysis & Design	2
Practice of Industrial Engineering Design	2
Semester I	
Optimization Method	3
Multivariate Statistics	3
Principles of Industrial Engineering and Management	2
Research Seminar	1
Semester II	
Methodology and System Modeling	3
Research Methodology I	2
Elective Course I	3
Elective Course II	3
Semester III	
Elective Course III	3
Elective Course IV	3
Elective Course V	3
Research Methodology II	3
Semester IV	
Thesis	6