

## **Management – Industrial Engineering**

### **Introduction**

The Industrial Planning Concentration was introduced under the scope of the double program Industrial Engineering and Management in order to meet the demand from high school graduates wishing to follow a career in production/operation, marketing, finance and human resources, with the aim of achieving a position as General Manager.

The combination of two disciplines - Management and Industrial Engineering provides students with a thorough grounding in business models and management systems which enables graduates to meet the demands of the market.

### **Vision**

Enhancing the sustainability of local and global community through research and innovation in industrial management.

### **Mission**

The mission of Management – Industrial Engineering program is to contribute to the global community through the provision of world-class education by :

1. Preparing student with solid educational experience of design, analysis, management and improvement of industrial integrated system, and ability to conduct and implement high impact research which enhance quality of life.
2. Providing solid learning experience by collaborating with prestigious industry through creating the most creative and value added talents of leaders for global community as well as conducting professional services to improve the quality of life.
3. Providing high-impact research to enhance the sustainability growth of local and international community.

### **Program Objective**

The objectives of the program are :

1. To prepare students for the contemporary practice of general engineering with a broad knowledge of principles of mathematics, science, engineering, and the use of computers.
2. To provide students with the methodological and computational skills to operate effectively through direct involvement in problem solving required in Industrial Engineering practice.
3. To provide students with fundamental knowledge in Management Science & Business that they will need in management practices.
4. To provide students with Management and Business Skills integrated with IT and high Impact Research (business, management, marketing, finance and business organization), providing adequate tools for business analysis in this areas.
5. To integrate students to a need for and to provide an ability to appreciate the global scope and contemporary issues within Industrial Engineering discipline.

### **Graduate Competency**

At the end of the program, graduates will be able to :

1. Apply mathematics, science and engineering to the Industrial Engineering domain.
2. Collect, analyze and interpret the data used in designing and conducting experiments.

3. Design a system, component, or process to meet desired needs within realistic constraints.
4. Identify, formulate, and solve problems through Industrial Engineering approaches.
5. Demonstrate and apply knowledge of management practices.
6. Interpret and analyze current global business conditions.
7. Demonstrate and apply critical thinking in current business cases, plan research programs prior to problem solving in business practices.
8. Model, map, analyze and design organization business process and to implement business process management.
9. Develop, implement, and analyze organizational performance management system and to develop dashboard management.

### **Prospective Career of the Graduate**

Industrial Engineering and Management graduates will be able to use their acquired skills in a wide range of professions, as entrepreneurs, and working as management and business consultants, middle managers in a range of industries . By demonstrating the competencies listed above, graduates will be ready to face dynamic challenges of business.

The type of works are doing are but not limited to:

1. Service Industry: Client Management, Commercial Banking and Real Estate, Financial Consulting, Health Systems, and Human Resource Consulting.
2. Manufacturing Industry: Inventory Management, Logistics, Operation Management, Production Management, and Warehousing.
3. Research and Development: Data Analysis, Environmental Protection and Preservation, and Human Factors Engineering.
4. Business and Management: Business Strategy, Investment Banking, Management Analysis, Project Management, and Business Development.
5. Information Technology: Computer Integration, Database Design, Telecommunication, and Web Development.
6. Education: Teaching and Research.

### **Curriculum**

The curriculum for the double program Industrial Engineering and Management at BINUS UNIVERSITY includes elements from the National Curriculum of Tertiary Educational Institutions and local material for the Industrial Planning component. Therefore the dual program of Industrial Engineering and Management is not only the combination of two study programs but it also has special elements not available on individual programs.

**Course Structure**

Sem	Code	Course Name	SCU	Total	
1	ISYE6001	Introduction to Industrial System	2	20	
	MGMT6011	Introduction to Management and Business	4		
	ACCT6087	Introduction to Accounting	4		
	COMP6047	Algorithm and Programming	4/2		
	SCIE6017	Biology	2		
	<b>English University Courses I</b>				
	ENGL6128	English in Focus	2		
	ENGL6130	English for Business Presentation	2		
2	CHAR6013	Character Building: Pancasila	2	20	
	SCIE6004	Physics I	4		
	ECON6005	Microeconomics	4		
	MGMT6012	Human Resources Management	4		
	MATH6045	Calculus I	4		
	<b>English University Courses II</b>				
	ENGL6129	English Savvy	2		
	ENGL6131	English for Written Business Communication	2		
3	CHAR6014	Character Building: Kewarganegaraan	2	24	
	SCIE6005	Physics II	4/2		
	STAT6003	Probability Theory	2		
	ENGR6004	Technical Drawing	2/2		
	LAWS6075	Legal Aspect in Economic	2		
	MATH6039	Calculus II	4		
	ISYS6123	Introduction to Database Systems	2/2		
	CHAR6015	Character Building: Agama	2		
4	MATH6004	Linear and Discrete Mathematics	4	24	
	STAT8069	Statistic for Business Excellence	4		
	ENTR6003	Entrepreneurship I	2		
	MATH6019	Calculus III	4		
	ECON6006	Macroeconomics	4		
	ECON8009	Managerial Economics	4		
	MGMT7013	Strategic Management	4		
5	MGMT6051	Introduction to Business Process Modeling*	4	24	
	ISYE6039	Deterministic Optimization	4		
	ACCT6049	Managerial Accounting	4		
	MATH6048	Business Mathematics	4		
	ISYS6118	Management Information Systems	4		
	ENTR6004	Entrepreneurship II	2		
6	STAT6096	Stochastic Processes	4	24	
	MKTG8005	Marketing Management	4		
	ISYS8088	Business Intelligence	4		
	MGMT6018	Operational Management	4		
	SCIE6007	Industrial Chemistry	4		
	COMM8006	Business Communication	2		

Sem	Code	Course Name	SCU	Total
7	MGMT7052	Performance Management & Measurement System*	4	24
	ISYE6041	Engineering Economy	2	
	MGMT6055	Business Process Modeling, Analysis and Design	4	
	ISYE6069	Production Planning and Inventory Control	4/2	
	ISYS6125	Data warehouse	2/2	
	ISYE6006	System Modeling and Simulation	4	
8	FINC6001	Financial Management	4	24
	MGMT6056	Advanced Topics in Performance Excellence	2	
	MGMT7057	Business Process Measurement and Metrics	4/2	
	RSCH6005	Business Research Method	2	
	ISYS8089	Knowledge Management	4	
	ISYS6177	Digital Dashboard and Performance Management & Measurement	2/2	
	ISYE6043	Quality Control	2	
9	ISYE6060	Leadership and Organization Behavior	4	10
	MGMT6038	Cross Cultural Management	2	
	ISYE6059	Human-Integrated Systems	2/2	
10	ISYE6030	Final Project	6	6
<b>TOTAL CREDIT 200 SCU</b>				

\*) *Entrepreneurship embedded*

**English University Courses:**

- ) *For English University Courses I, student with score Binus University English Proficiency Test less than 500 will take English in Focus, and student with score test greater than or equal to 500 will take English for Business Presentation*
- ) *For English University Courses II, student with score Binus University English Proficiency Test less than 500 will take English Savvy, and student with score test greater than or equal to 500 will take English for Written Business Communication*

**The Table of Prerequisite for Management – Industrial Engineering (S1)**

Subject		Credits	Subject		Credits
MATH6019	Calculus III	4	MATH6045	Calculus I	4
STAT6096	Stochastic Processes	4	STAT6003	Probability Theory	2
MKTG8005	Marketing Management	4	MGMT6011	Introduction to Management and Business	4
FINC6001	Financial Management	4			

**Student should pass all of these quality controlled examinations as listed below:**

No	Code	Course Code	Minimum Grade
1	CHAR6013	Character Building: Pancasila	B
2	ENTR6004	Entrepreneurship II	C
3	STAT6096	Stochastic Processes*	C
4	ISYE6039	Deterministic Optimization*	C
5	STAT8069	Statistic for Business Excellence	C
6	ISYE6059	Human-Integrated Systems	C
7	ISYS6177	Digital Dashboard and Performance Management & Measurement	C
8	MGMT6051	Introduction to Business Process Modeling	C
9	FINC6001	Financial Management	C
10	ECON6005	Microeconomics	C
11	MKTG8005	Marketing Management	C
12	MGMT6012	Human Resources Management*	C
13	MGMT7052	Performance Management & Measurement System	C
14	MGMT6055	Business Process Modeling, Analysis and Design	C

\*)Tutorial & Multipaper