Information Systems – Industrial Engineering

Introduction

Graduates of Information Systems wanting to focus on information technology must also have an understanding of the business processes of enterprise. Similarly, an Industrial Engineer who wants be involved in a career in Industrial technology, must also focus on this subject. With these careers in mind, UBINUS provides a double study program: Industrial Engineering and Information Systems, in order to prepare students for the dual roles of the industry.

Vision

Enhancing the sustainability of local and global community through research and innovation in applied Industrial information technology.

Mission

The mission of Industrial Engineering – Information Systems 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 system, and ability to conduct and implement of industrial integrated system, and ability to conduct and implement high impact research which enhance quality of life.
2. Educating student in the development of ability to analyze, design, implement, and manage a business innovatively through information technology especially in asia business management and create readiness nationally and internationally with quality leadership.
3. Providing high-impact research to enhance the sustainability growth of local and international community.

Program Objectives

The objectives of the program are:

1. To prepare student for the contemporary practicve of general engineering with a broad knowledge of principles of mathematics. Science, engineering, and use of computers.
2. To provide student with the methodological and computational skills to operate effectively through direct solving required in Industrial Engineering practice.
3. To provide student with solid foundation of system development skill and knowledge to applied skills and ability they need as system analyst
4. To integrate students to a need for and to provide an ability to appreciate the global scope and contemporary issues within Industrial Engineering discipline especially in Information Technology.
5. To prepare students with skills and knowledge in depth information system related with industrial Information System

Graduate Competencies

1. Apply mathematics, science, and engineering the Industrial Engineering domain
2. 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. Illustrate a god knowledge about the framework information system

6. Analyze information requirements and business process
7. Design systems that are aligned with organizational goals
8. Propose implementation Technology as an enabler
9. Propose applied industrial information systems solutions based on organization Strategy

Prospective Career of The Graduates

Professions will include all those related to Industrial Engineering and Computer (Information Systems) with the advantage for graduates of the double program being that they will have the increased benefit of combining their skills in two fields.

Graduates are employed in manufacturing and service industries. 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: Corporate Information System, Database Design/Administration, E-Business, System Analyst & Design, Web development/Design, IT / IS consultant
6. Education: Teaching and Research

Curriculum

The curriculum for the double study program Information Systems and Industrial Engineering is arranged in such a way that graduates have competences from each discipline as well as specific emphasis given to scientific skills in the field of corporate planning. The student is expected to finish this combination of two scientific fields in five years.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CB412	CB: Self Development	2	20
	D0052	Introduction to Industrial System	2	
	D0684	Physics I	4	
	K0584	Calculus I	4	
	M0014	Information System Concept	4	
	T0622	Introduction to Information Technology	2	
	G1372	English Entrant	2	
2	CB422	CB: Spiritual Development	2	20
	D0696	Physics II	4/2	
	K0434	Calculus II	4	
	T1446	Algorithm and Programming	2/4	
	G1382	English in Focus	2	
3	K0074	Calculus III	4	24
	K0134	Industrial Chemistry	4	
	M0034	Information and Business Process	4	
	T1456	Object Oriented Programming	2/4	
	G1392	English Savvy	2	
	M0054	Information System Development	2/2	
4	CB432	CB: Interpersonal Development	2	24
	D0702	Environmental Science	2	
	EN001	Entrepreneurship I	2	
	M0086	Information System Analysis and Design	4/2	
	D1054	Linear and Discrete Mathematics	4	
	T1464	Programming for business	2/2	
	T0084	Human and Computer Interaction	2/2	
5	CB442	CB: Professional Development	2	24
	D1062	Biology	2	
	D0744	Deterministic Optimization	4	
	D1044	Technical Drawing	2/2	
	D1264	Project Management*	4	
	M0126	Advanced Information System Analysis and Design	4/2	
	D0712	Probability Theory	2	

Sem	Code	Course Name	SCU	Total
6	EN002	Entrepreneurship II	2	24
	M0564	Introduction to Database Systems	2/2	
	D1074	Applied Statistics	4	
	D1084	Human-Integrated Systems	2/2	
	D1114	Financial Accounting	4	
	M0154	Management Support System	4	
	M0232	Testing and Implementation	2	
7	D1232	Facility Planning	2	24
	D0782	Quality Control	2	
	D1334	Stochastics Process	4	
	D1282	Engineering Risk and Benefit Analysis*	2	
	D1226	Production Planning and Inventory Control	4/2	
	M0594	Enterprise System	4	
	M0734	Business Process Reengineering	4	
8	D0174	System Modeling and Simulation	4	24
	I0192	Research Methodology	2	
	M0114	Web-Based Programming	2/2	
	M0244	Information System Strategic Planning	4	
	M0624	Information Technology Valuation	4	
	M0792	Information System Security	2	
	D1104	Leadership and Organization Behavior	4	
9	D0414	Advanced Topics in Production and Manufacturing System	4	20
	D1126	Manufacturing Process	4/2	
	D1144	Industrial Practice	4	
	M0304	Corporate Information System Management	4	
	D1212	Mechanics of Materials	2	
10	D0446	Thesis	6	6
	Elective Courses			
	G1402	English for Business Presentation	2	
	G1412	English for Written Business Communication	2	
TOTAL CREDIT 210				

**) Entrepreneurship Embedded*

The Table of Prerequisite for Information Systems – Industrial Engineering (S1)

Subject		Credits	Prerequisites		Credits
K0074	Calculus III	4	K0584	Calculus I	4
D1334	Stochastics Process	4	D0712	Probability Theory	2
D0782	Quality Control	2	D1074	Applied Statistics	4

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

No	Code	Course Name	Minimum Grade
1	CB412	CB: Self Development	B
2	EN002	Entrepreneurship II	C
3	D1334	Stochastics Process	C
4	D0744	Deterministic Optimization*	C
5	D1074	Applied Statistics*	C
6	D1084	Human-Integrated Systems	C
7	D1226	Production Planning and Inventory Control	C
8	D1126	Manufacturing Process*	C
9	D1264	Project Management	C
10	M0014	Information System Concept*	C
11	M0086	Information System Analysis and Design*	C
12	M0244	Information System Strategic Planning*	C
13	M0304	Corporate Information System Management	C
14	M0564	Introduction to Database Systems	C

*) Tutorial & Multipaper