



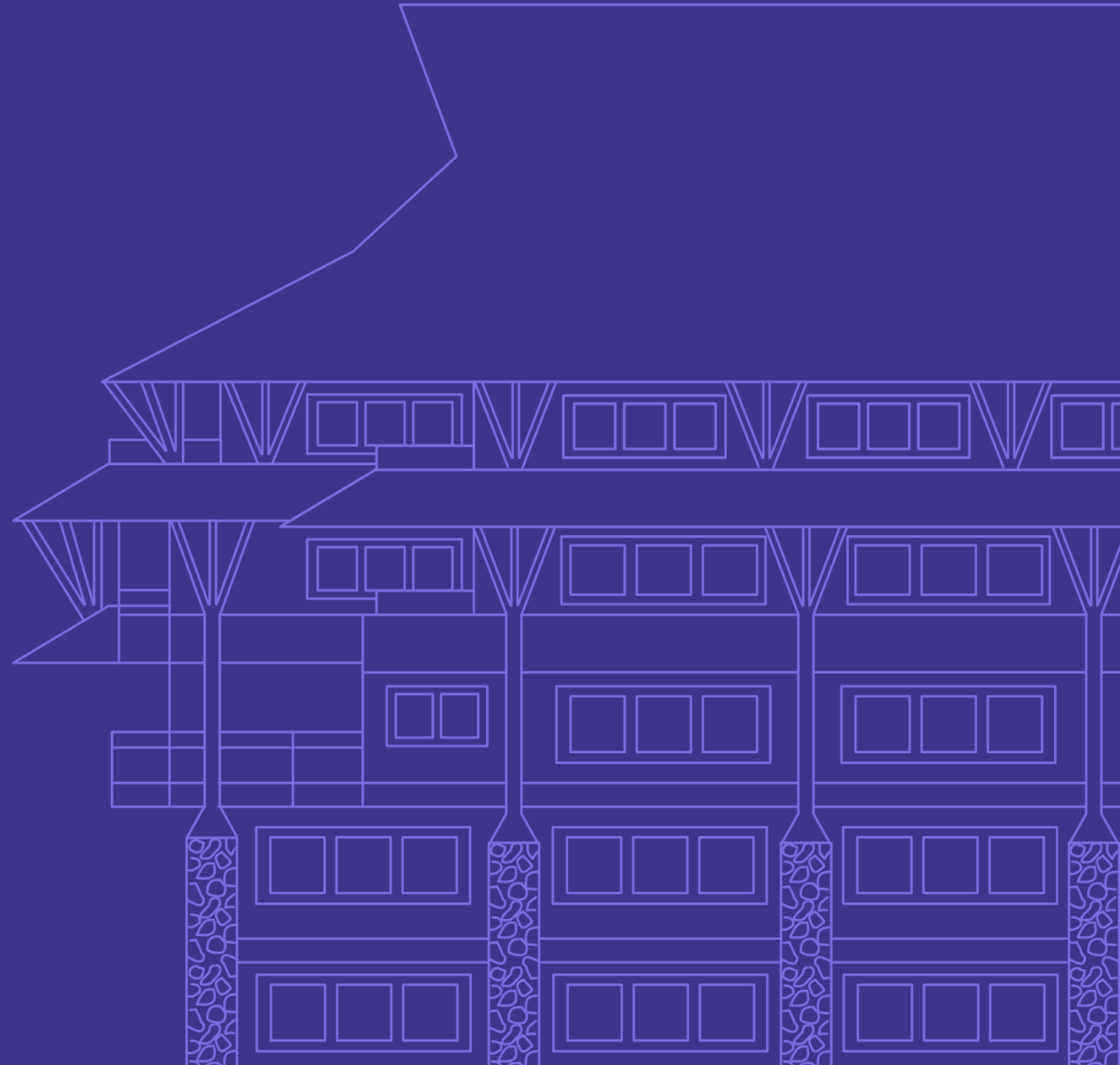
# Where your **engineering** journey begins

## Program Overview

**Industrial Engineering  
International Undergraduate Program**

**Faculty of Industrial Technology  
Institut Teknologi Bandung**

*multidiscipline, adaptive, innovative*



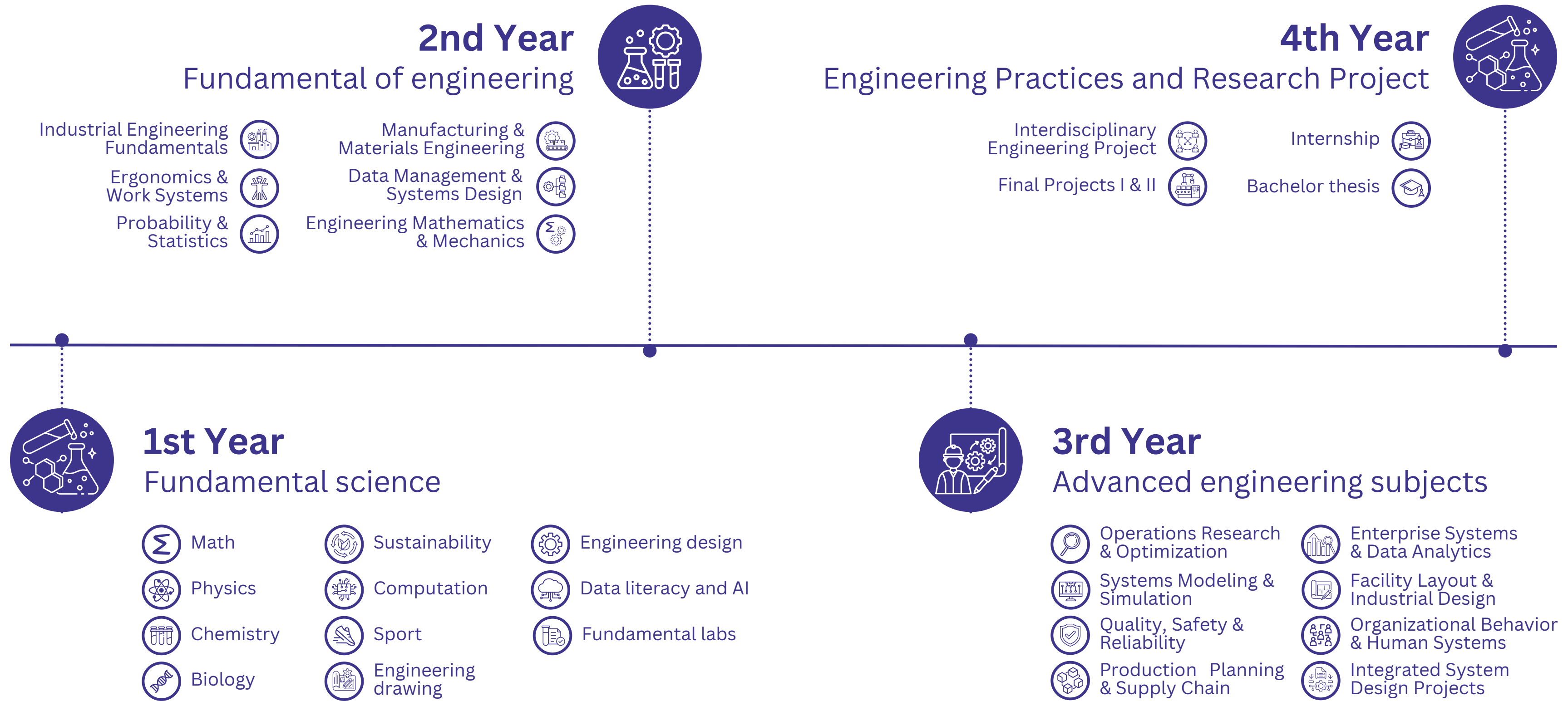
# What is Industrial Engineering?

Industrial Engineering focuses on **designing and improving complex systems** to make organizations more **efficient and productive**. Industrial engineers analyze **operations, identify opportunities for improvement**, and implement solutions that reduce waste, lower costs, and enhance quality. The goal is to maximize resources, eliminate bottlenecks, and create sustainable processes that support long-term organizational success.

## IISE Body of Knowledge



# Curriculum



# Curriculum

No	Course name	Credit	No	Course name	Credit
<b>1<sup>st</sup> semester</b>			<b>2<sup>nd</sup> semester</b>		
1	MA1101 Mathematics I	4	1	TI1202 Engineering Drawing	2
2	FI1101 General Physics I	3	2	MA1201 Mathematics IIA (for Natural Sciences and Engineering)	4
3	KI1101 General Chemistry I	3	3	FI1201 General Physics IIA	3
4	WI1101 Pancasila	2	4	WI2001 Introduction to Engineering and Design	3
5	WI1102 Computational Thinking	2	5	WI2002 Artificial Intelligence and Data Literacy	2
6	WI1103 Introduction to Principles of Sustainability	2	6	WI2005 Indonesian Language	2
7	WI1111 Basic Physics Laboratory	1	7	TI1201 Elementary Biology	2
8	WI1112 Basic Chemistry Laboratory	1			
<b>3<sup>rd</sup> semester</b>			<b>4<sup>th</sup> semester</b>		
1	TI2001 Introduction to Industrial Engineering	3	1	TI2201 Statistics	3
2	TI2101 Probability Theory	2	2	TI2202 Operations Research I	3
3	TI2104 Introduction to Ergonomics	2	3	TI2203 Cost Analysis and Engineering Economics	4
4	TI2105 Materials and Manufacturing Process	3	4	TI2204 Work System Engineering	2
5	TI2106 Data Management	2	5	TI2205 Production Planning and Control	2
6	TI2091 Integrated System Design Practice I	1	6	TI2206 Industrial Automation	2
7	MA2021 Matrices and Vector Spaces	3	7	TI2092 Integrated System Design Practice II	1
8	WI2004 English	2	8	MS2050 Basic Engineering Mechanics	2

# Curriculum

No	Course name	Credit	No	Course name	Credit
<b>5<sup>th</sup> semester</b>			<b>6<sup>th</sup> semester</b>		
1	TI3101 Quality Assurance and Control	3	1	TI3202 Supply Chain System	2
2	TI3102 Operations Research II	3	2	TI3203 Systems Simulation	2
3	TI3103 Systems Modeling	3	3	TI3205 Facility Layout Design	2
4	TI3104 Occupational Health and Safety	2	4	TI3206 Enterprise System and Data Analytics	3
5	TI3106 Information Systems Analysis and Design	3	5	TI3207 Organizational Behavior	2
6	WI2024 Organisasi dan Manajemen Perusahaan Industri (OMPI)	2	6	TI3094 Integrated System Design Practice IV	2
7	TI3093 Integrated System Design Practice III	1			
<b>7<sup>th</sup> semester</b>			<b>8<sup>th</sup> semester</b>		
1	TI4001 Interdisciplinary Engineering Project	2	1	WI2006 Civic Education	2
2	TI4091 Industrial Engineering Final Project I	2	2	WI201X Religion	2
3	WI2003 Sports	1	3	TI4092 Industrial Engineering Final Project II	4

# Learning Outcome

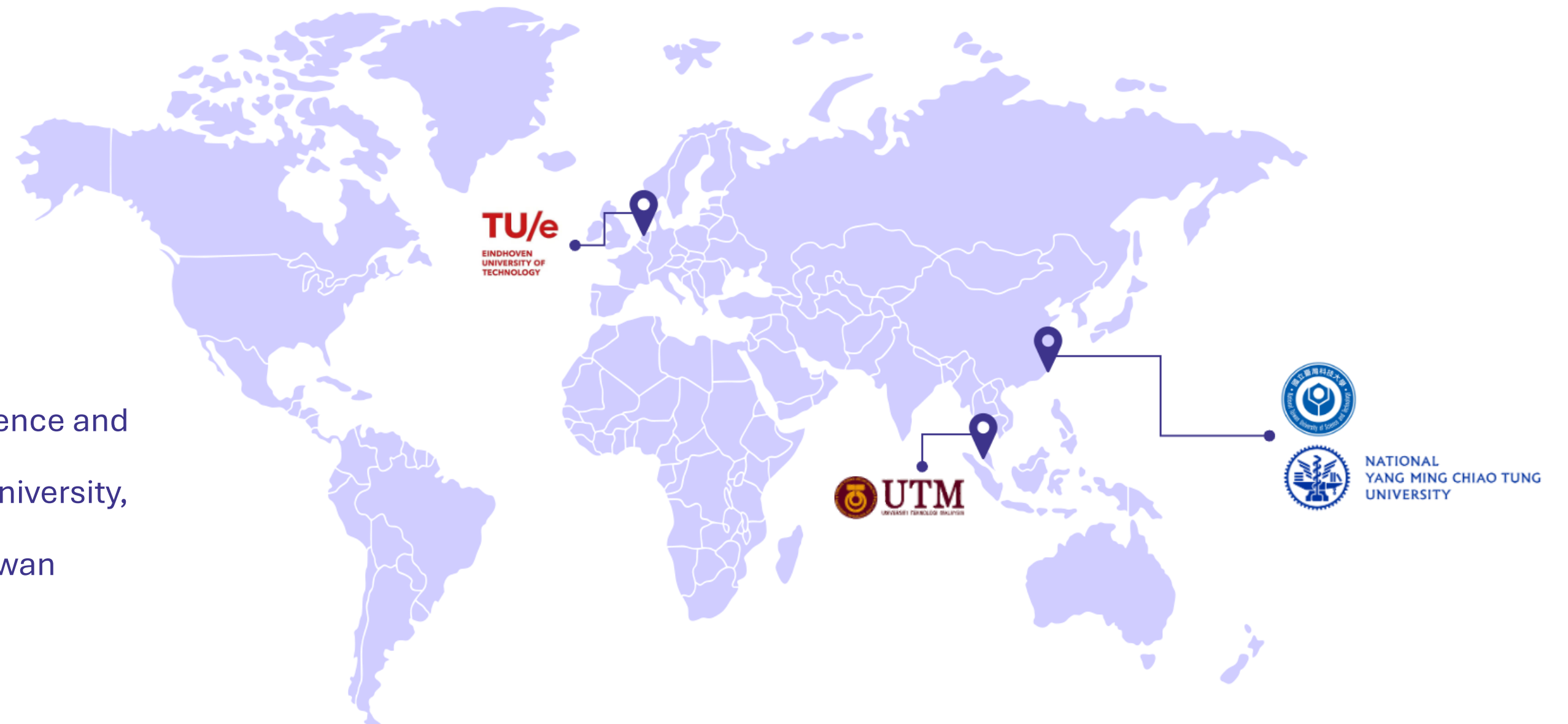
1. Ability to apply mathematics, science, information technology, and engineering principles in solving engineering problems within integrated systems.
2. Ability to design integrated systems that meet standards and realistic multi-aspect constraints, while considering the utilization of local and national resources as well as global perspectives.
3. Ability to design and conduct experiments, and to analyze and interpret data to support decision-making.
4. Ability to identify, formulate, analyze, and solve complex engineering problems in integrated systems using analytical, computational, or experimental approaches.
5. Ability to select and utilize modern methods, skills, and engineering tools necessary for performing industrial engineering activities.
6. Ability to communicate effectively with diverse audiences.
7. Ability to plan, execute, and evaluate tasks in accordance with specified criteria.
8. Ability to function effectively in cross-disciplinary and cross-cultural teams.
9. Ability to take responsibility and adhere to professional ethics in solving industrial engineering problems.
10. Ability to independently acquire new knowledge as needed, including accessing relevant information on current issues.

# Partnership program



## Short Course and Student Exchange Program

- National Taiwan University of Science and Technology, Taiwan
- National Yang Ming Chiao Tung University, Taiwan
- Universiti Teknologi Malaysia, Taiwan
- TU Eindhoven, Netherlands



## Estimation of education cost

No	Program	Estimated education costs* (ITB)	Estimated education costs per annum** (Outbound)
1	Exchange program (1 semester at National Taiwan University of Science and Technology, Taiwan)	Rp 450.000.000	NT\$ 13,200
2	Exchange program (1 semester at Universiti Teknologi Malaysia, Malaysia)	Rp 450.000.000	MYR 6,120 - MYR 9,000
3	Exchange program (1 semester at TU Eindhoven, Netherlands)	Rp 450.000.000	EUR 6,000 - EUR 9,000

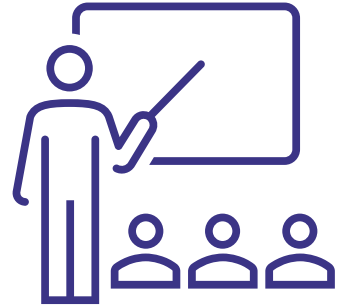
\* Cost estimates may differ due to variations in the Institution Development Donation and living costs.

\*\* Cost estimates may differ due to variations in flight ticket prices, settlement costs, and living costs.

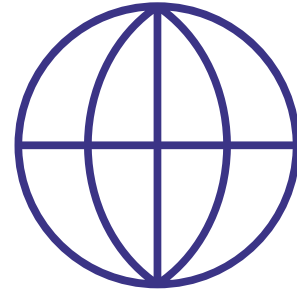
## Career pathways

Industry domains	Typical roles
Manufacturing & Operations	Process Engineer, Quality Engineer, Operations Engineer
Digital & Data Systems	Data Analyst, Industrial Data Scientist, Business Intelligence Analyst
Supply Chain & Logistics	Supply Chain Analyst, Logistics Planner, Operations Planner
Research & Innovation	R&D Engineer, Research Assistant, Innovation Specialist
Business & Consulting	Management Trainee, Technology Consultant

## Why IUP (vs Regular Program)?



**100% English  
taught**



**Structured  
international  
exposure**



**Project &  
research driven**



**Global-ready**



**“Studying Industrial Engineering at FIT ITB prepared me not only to understand systems, but to improve them.”**

The multidisciplinary and project-based learning approach helped me develop strong analytical thinking, data skills, and problem-solving abilities. I learned how to look at problems from technical, managerial, and sustainability perspectives.

Today, I work in a fast-paced global company, collaborating with international teams and handling complex projects with confidence. The adaptability, communication skills, and systems thinking that I gained at FIT ITB continue to be the foundation of my professional growth.

**Regina Marvella, Associate at BCG (Indonesia), Industrial Engineering Alumni, FIT ITB**