

## Admission Requirements

- English proficiency: IBT International TOEFL or IELTS
- One of the following valid certificate / diploma of international high school—level education qualifications: SAT, General Certificate of Education A/AS Level, AICE, Sijil Tinggi Persekolahan Malaysia (STPM), European Baccalaureate (EB), International Baccalaureate (IB), ITB Academic Potential Test Results
- High School Academic Report / Semester Academic Transcript from 1st to 5th semesters

Further information: <http://usm.itb.ac.id/international/>

## Our University Partners

- [University of Queensland, Australia](#)  
Double-degree program.
- [Monash University, Australia](#)  
Double degree and 1-year Study Abroad in 3rd Year, with option to continue to 1-year Master in Advanced Engineering Program upon graduation from ITB
- [Singapore Polytechnic](#)  
Intensive project-driven summer courses.
- [Swinburne University, Sarawak Campus](#)  
Student exchange for 7th semester students

AND MANY MORE.....



## The Board of Chemical Engineering Department

### Chairman of Chemical Engineering Undergraduate Program

Hary Devianto, S.T., M.Eng., Ph.D.  
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### Dean of Industrial Technology Faculty

Prof. Brian Yulianto, ST., M.Eng., Ph.D.  
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### Vice Dean for Academic Affairs

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### Vice Dean for Resources

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## INTERNATIONAL CLASS CHEMICAL ENGINEERING

## UNDERGRADUATE PROGRAM

# What is Chemical Engineering?

Chemical Engineering is an engineering discipline which studies the design & operation of commercial-scale chemical processes in **safe, sustainable, & profitable manners**. These processes encompass various utilizing chemical & biochemical reactions, & changes in properties of materials to convert them into commercially valuable products. Practical everyday life is virtually impossible without chemical products - clothing, automotive fuel, agricultural fertilizers, plastics, medicine, & even foods. Chemical engineers **design, engineer, & operate** processing facilities. When **designing**, they transform laboratory-scale chemical reactions into commercial-scale operations by determining the sequencing of major process operations, calculating materials & energy flow between these operations, selecting the proper type & size of processing equipment, & apply economic principles to evaluate the profitability of the facility. When **engineering** an existing process facility, they apply their knowledge of process behavior & performance of individual or sets of equipment to improve the competitiveness of the facility (e.g. using less energy, generating less waste). When **operating** a facility, chemical engineers use their knowledge to understand the steady & dynamic behavior of processes. This understanding enables them to safely operate the facility using various process instruments & control systems, & to evaluate the performance of existing processes.

## Chemical Engineering at ITB

Established in 1941, Chemical Engineering at ITB is the oldest chemical engineering higher education institution in Indonesia. Currently, it hosts more than 40 full-time faculty members, approximately 350 undergraduate students, 120 master students, & 20 doctoral students. The undergraduate program is accredited by ABET (Accreditation Board for Engineering and Technology).

## Program Educational Objectives

The education in our Program prepares our graduates to be significant to their chosen career fields. Our graduates will be able to achieve the following objections within 5 years of completing their study:



1. Progress in their professions by practicing chemical engineering principles & methods in technical, managerial, or other career tracks.
2. Be effective team members in their organization by applying & developing their communication, leadership, and team-working skills.
3. Having completed or pursuing advanced degrees in engineering, science, business, or other relevant areas of study, professional certifications or training, or are actively engaged in professional development activities in his/her employment.

## International Undergraduate Program

International Class in the Chemical Engineering Undergraduate Program was established in 2016. This class is taught entirely in English, & operates in parallel with the regular class in ITB's Ganesha campus. The curriculum comprises 4-year coursework. The first-year courses are focused on basic sciences, liberal arts, & principles of general engineering. The second-year coursework teaches fundamental engineering sciences such as thermodynamics, mass & energy balance, heat transfer, & fluid mechanics. The third-year coursework strengthens the understanding of fundamental engineering sciences & tools through moderately complex subjects & engineering labs. The fourth-year coursework centers around 3 culminating subjects, namely Industrial Internship, Undergraduate Research, & Plant Design Project. In the Industrial Internship, students take 1 to 3 months of residency in the industry to gain firsthand experience of real-life engineering practice. In team-based Undergraduate Research, students learn to formulate & solve engineering problems through literature surveys & experimental work. The Plant Design Project provides a rich, complex challenge for students to apply the entire undergraduate coursework in the team-based design of a complex processing plant.

## Student Life

Opportunities for students to enrich their study experience, to gain friends & expand their network are abound in ITB campus. Our students have organized several key annual events, both in a regional scale and international scale.

### HIMATEK ITB (ITB Chemical Engineering Student Union)

HIMATEK ITB is the organization for chemical engineering students. It facilitates co-curricular programs to further prepare student with skills for professional world.



### AIChE ITB SC (American Institute of Chemical Engineers ITB Student Chapter)



AIChE ITB SC is the first AIChE Student Chapter in Indonesia and recognized internationally. AIChE ITB SC aims to equip its members with professional skills and to connect them with corporate partners.

### IChEC (Indonesia Chemical Engineering Challenge)

IChEC is a chemical engineering competition in Southeast Asia held by HIMATEK ITB in collaboration with the Chemical Engineering Department. It has successfully held seminars which are filled by speakers from government and industry practitioners.



### ChE Night (Chemical Engineering Night)



ChE Night is an annual gathering event for the Chemical Engineering Department.