

STUDY PROGRAM

CHEMICAL ENGINEERING

COURSE OUTLINE

Chemical engineers, also known as process engineers, are responsible for manufacturing processes in the industries that transform raw materials into a variety of valuable products through chemical, physical and biotechnological processes. These products include pharmaceuticals, food, cosmetics, herbal medicines/nutraceuticals, energy related products including oil/gas or biofuels, petrochemicals, polymers and biopolymers. Life Sciences content in our program will also equip IULI Chemical Engineering graduates with knowledge of biotechnology based processes that are becoming more prevalent in today's industries, particularly in the pharmaceutical, food and energy industries.

IULI's Chemical Engineering program provides students with technical foundations to prepare them for a bright future career in chemical engineering or related fields. While the basic curriculum is strong in the chemical engineering field, in the final years, we focus our study and research in the field of pharmaceutical processes including herbal medicine, complemented by bioprocess engineering, which is unique to our Life Sciences program.

DOUBLE DEGREE AND ELECTIVE INTERNSHIP IN EUROPE

Furthermore, as part of our international program, students will enjoy the experience of conducting cutting edge research in a German university. Added to an elective internship program in Europe, this will become their pathway to acquiring a double degree from Germany. Hence, our graduates will have substantial advantages when they are starting their national or international career, or continuing with higher education in Indonesia or abroad.

FIELDS OF ACTIVITIES

Potential areas of employment for graduates of Chemical Engineering are numerous, both nationally and internationally, including:

- Pharmaceuticals and Herbal Medicine Industries
- Food industries and cosmetics industries
- Specialized food and pharmaceutical industries dealing with functional food focusing on nutraceutical products such as jamu (Indonesian Herbal Medicine), baby food, and other food for specific diets for health or for beauty
- Biotechnological manufacturing industries (pharmaceuticals, vaccines, fermentation based food industries, agricultural products)
- Energy Industries including biofuel and biogas as well as oil and gas
- Petrochemical and mining industries
- Chemical and pharmaceutical processing equipment suppliers
- Research and development (R&D) of new products throughout the entire value chain
- Entrepreneurship in various related products or services (agricultural, jamu/herbal industries, food industries, consulting)
- Quality Control, Quality Assurance, and Quality Management in industries
- Government institutions such as BPOM (Badan Pengawas Obat dan Makanan), Ministry of Health, Ministry of Agriculture, Ministry of Research, Ministry of Industry



Photo: International University Liaison Indonesia

CURRICULUM 2017-2018

Date/ Rev : 08 AUGUST 2017/ Rev. 08
 Program : Bachelor
 Valid : Batch 2017-2018

STUDY PROGRAM : CHEMICAL ENGINEERING (PHARM. ENG.)

SUBJECTS									
University Compulsory Subjects	1	2	3	4	5	6	7	8	Total
English	2	2	2	2	1	1			10
Computer Network & IT Security	2								2
Applied Statistics		2							2
Research Methodology		2							2
Environment Sciences			2						2
Civics				2					2
Ethics and Religious Philosophy					2				2
Innovation & Product Development					2				2
E-Commerce						2			2
Indonesian Language & Culture						2			2
Pancasila						2			2
Oral Final Study Examination (OFSE)						0			0
Research Semester							6		6
Internship / Project								3	3
Thesis / Thesis Defense								6	6
Total	4	6	4	4	5	7	6	9	45
Life Sciences Faculty Compulsory Subjects	1	2	3	4	5	6	7	8	Total
Introduction to Life Science	1								1
Physics & Laboratory 1, 2	3	3							6
Mathematics 1, 2	3	3							6
Physics & Laboratory 1, 2	3	3							6
Applied Mathematics			3						3
Numerical Methods				2					2
Chemistry	2								2
Chemistry Laboratory		1							1
Organic Chemistry		3							3
Organic Chemistry Laboratory			1						1
Electrical Engineering & Laboratory 1, 2	3	3							6
Material Science	2								2
Biology	3								3
Biochemistry			3						3
Algorithm Programming 1, 2	3	3							6
Engineering Economy					2				2
Metrology and Quality Control			2						2
Total	20	16	9	2	2	0	0	0	49
Chemical Engineering Compulsory Subjects	1	2	3	4	5	6	7	8	Total
Fluid & Partial Mechanics			3						3
Mass & Energy Balance		2							2
Microbiology			3						3
Microbiology Laboratory				1					1
Physical Chemistry			3						3
Analytical Chemistry			2						2
Physical & Analytical Chemistry Laboratory				1					1
Heat & Mass Transfer Operation				3					3
Chemical Engineering Thermodynamics				4					4
Transport Phenomena						2			2
Process Control					3				3
Chemical Industrial Technology				3					3
Plant Health & Safety						2			2
Chemical Engineering Operations Laboratory 1, 2					1	1			2
Separation Process						3			3
Chemical Engineering Plant Design						4			4
Chemical Reactions Engineering Design					4				4
Elective Subjects				4	6	2			12
Total	0	2	11	16	14	14	0	0	57
Total 1, 2, 3	24	24	24	22	21	21	6	9	151
Extra Curricular									
German Language	2	2	2	2	2	2			12
Total	2	2	2	2	2	2	0	0	12

Subject to change

The actual implementation follows the internal arrangements & policy of the Department & Faculty

File: ELE-Flyer-Aug-2017

Print Date: 10 Aug 2017, 200 exp