STUDY PROGRAM

ELECTRICAL ENGINEERING

International University Liaison Indonesia

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COURSE OUTLINE

Innovations in Electrical Engineering have ly transformed all aspects of our lives. Some of these are electrical power generation and transmission, analog- and digital-electronics, digital computers, the intelligence embedded into our home appliances and automobiles, healthcare technology, wired and wireless communications, and the internet. All of these innovations and technologies have solid roots in the engineering and sciences that are integral to the study of Electrical Engineering.

Electronic engineering is a specific concentration in electrical engineering study, encompasses all areas of research, development, design, and operation of electrical and electronic systems and their components, including software. Emphasis in such varied areas as bioengineering, circuit theory, communication sciences, computers and automation, control systems, electromagnetic fields, energy sources and systems, and materials and electronic devices is available.

The major in Electrical Engineering builds on foundations in math and physics. It prepares students for a broad set of career opportunities in information, systems and physical electronic technology and applied science. Electrical Engineering is where the physical world and the virtual world connect.

FIELDS OF ACTIVITIES

Electrical engineers hold many unusual and challenging positions in the aerospace, chemical, nuclear, automotive, medical, metallurgical, textile, railway, petroleum, and other basically nonelectrical industries, as well as in computers, electronics, communications, power, and other electrical industries. Their activities span industrial activity, research, development, design, production, marketing, operation, field test, and maintenance of many types of equipment for industry, farm, government, and home.

Electrical Engineers typically do the following:

- Analyze customer needs and determine electrical system requirements, capacity, and cost to develop a system plan
- Design new methods to use electrical power to develop or improve products
- Design electronic circuit, products or systems for commercial, industrial, medical, military, or scientific applications
- Develop maintenance and testing procedures for electrical systems, electronic components and equipment
- Evaluate systems and recommend design modifications or equipment repair
- Inspect electronic equipment, instruments, and systems to make sure they meet safety standards and applicable regulations
- Plan and develop applications and modifications for electronic properties used in parts and systems to improve technical performance
- Investigate complaints from customers or the public, evaluate problems, and recommend solutions
- Work with project managers on production efforts to ensure that projects are completed satisfactorily, on time, and within budget

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CURRICULUM 2017-2018

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

STUDY PROGRAM : ELECTRICAL ENGINEERING (INDUSTRIAL ELECTRONICS)

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**

Engineering Faculty Compulsory Subjects	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Introduction to Engineering	1								1
Chemistry	2								2
Material Science	2								2
Mathematics 1, 2	3	3							6
Physics & Laboratory 1, 2	3	3							6
Algorithm, Programming 1, 2	3	3							6
Electrical Engineering & Laboratory 1, 2	3	3							6
Engineering Drawing / CAD 1 **	0								0
Statics and Mechanics of Materials **		0							0
Manufacturing Process **			0						0
Applied Mathematics			3						3
Metrology and Quality Control			2						2
Computer Aided Design - CAD 2 **			0						0
Engineering Economy ***					2				2
System Design 1, 2 ***					3	3			6
Engineering Management ***						2			2
Total (Exclude: */ COS, ** ELE, *** INE)**	**17**	**12**	**5**	**0**	**5**	**5**	**0**	**0**	**44**

Electrical Engineering Compulsory Subjects	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Electronic Devices & Circuits 1,2			2	2					4
Telecommunication					2				2
Electric & Magnetic Fields			3						3
Electrical Safety & Protection			2						2
Sensor & Instrumentation Technology				3					3
Microcontroller Systems & Interface				3					3
Control Techniques				3					3
Electric Power Systems & Transmission				3					3
Electrical Energy Conversion & Utilization				2					2
Signals & Systems 1,2				2	2				4
Power Electronics					3				3
Radio Frequency Circuits & Antennas					2				2
Digital Signal Processing						3			3
Electric Machine & Drives						3			3
Elective Subjects		4	4	2	4	4			12
Total	**0**	**4**	**11**	**20**	**13**	**10**	**0**	**0**	**58**
Total 1, 2, 3	**21**	**22**	**20**	**24**	**23**	**22**	**6**	**9**	**147**

Extra Curricular	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
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

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