

STUDY PROGRAM

AUTOMOTIVE ENGINEERING

COURSE OUTLINE

Automotive engineers are involved in the design, manufacture, assembly, testing, and, most of all, in the operation of vehicles; namely, motorcycles, automobiles, trucks, buses and any similar ground-based vehicles, including their system components.

Automotive engineers are involved in production upstream until downstream, from the early concept to the delivery of the vehicle. The main working areas are design, production, assembly, maintenance, research and development. To become an automotive engineer, one needs to have a blend of engineering and managerial skills in delivering products within a financial budget. Automotive systems consist of many components, such as exhaust system, combustion engine, chassis and frame, and body. Usually, automotive engineers will specialize in a particular area.

FIELDS OF ACTIVITIES

- Designing and producing visual models of automobiles and their components using pencil and paper, clay model, wood-model, and/or computer aided design software
- Designing, selecting, optimizing appropriate materials for automotive components, applying mechanical, thermodynamic, and mechatronics principles to resolve problems and find appropriate solutions
- Designing, investigating, testing maintenance activities of automotive systems
- Quality control and management of vehicles from designing and manufacturing, to assembly



Photo: International University Liaison Indonesia

CURRICULUM 2017-2018

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

STUDY PROGRAM : MECHANICAL ENGINEERING (AUTOMOTIVE)

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*	3								3
Statics and Mechanics of Materials *		4							4
Manufacturing Process *			2						2
Applied Mathematics			3						3
Metrology and Quality Control			2						2
Computer Aided Design - CAD 2 **			3						3
Engineering Economy ***					2				2
System Design 1, 2 ***					3	3			6
Engineering Management ***						2			2
Total (Exclude: */** COS, ** ELE, *** INE)	20	16	10	0	5	5	0	0	56
Mechanical Engineering (Automotive) Compulsory Subjects	1	2	3	4	5	6	7	8	Total
Machine Elements			3						3
Thermo-Fluid Science 1, 2			2	2					4
Material and Metal Forming				3					3
Automotive Power Train Technology						3			3
Heat Transfer				3					3
Computer Aided Manufacturing-CAM				3					3
Kinematics and Dynamics of Machines				3					3
Control Techniques				3					3
Assembly and Manufacturing Support					2				2
Mechanical Vibrations					3				3
Introduction in Mechatronics			2						2
Internal Combustion Engine					3				3
Pneumatics and Hydraulics						3			3
Elective Subjects					4	4			8
Total	0	0	7	17	12	10	0	0	46
Total 1, 2, 3	24	22	21	21	22	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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