STUDY PROGRAM

MECHATRONICS ENGINEERING

COURSE OUTLINE

Mechatronics is an interdisciplinary engineering science with respect to electrical engineering / electronics, computer science and mechanical engineering. The term mechatronics has spread worldwide and has become a trademark for an interdisciplinary approach to the development, production and marketing of complex system products.

Students in this degree program will receive the necessary competences for the development of mechatronic systems in the automotive industry, manufacturing, medical devices technology, among others.

Further, important application fields of mechatronics are today biomechatronics and micro mechatronics / microsystems technology. Our partner universities (e.g. Technische Universitaet Ilmenau) are focusing in these mechatronic system designs. They have established a bridge to the life sciences and to micro and nanotechnology, which rely on interdisciplinary and systems thinking.

FIELDS OF ACTIVITIES

- Precision engineering equipment and mechanical engineering
- Measurement, control and regulation technology
- IT and electronics industry
- Microsystems Technology and Nanotechnology
- Automation Technology
- Medical
- Biomechatronics
- Automotive supply industry

Photo: International University Liaison Indonesia

CURRICULUM 2017-2018

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

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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**
Department Compulsory Subjects	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Machine Elements			3						3
Thermo-Fluid Science 1, 2			2	2					4
Kinematics and Dynamics of Machines				3					3
Electronic Devices and Circuits 1, 2			2	2					4
Sensor and Instrumentation Technology				3					3
Microcontroller Systems Interface				3					3
Control Techniques				3					3
Signals and Systems 1, 2				2	2				4
Digital Signal Processing						3			3
Telecommunication						2			2
Power Electronics						3			3
Pneumatics and Hydraulics						3			3
Electric Machines & Drives						3			3
Robotics & Automation 1, 2					2	2			4
Elective Subjects				2	2				4
Total	**0**	**0**	**9**	**18**	**11**	**11**	**0**	**0**	**49**
Total 1, 2, 3	**24**	**22**	**23**	**22**	**21**	**23**	**6**	**9**	**150**
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