



CURRICULUM

MECHATRONICS

Academic Year 2020/2021

SEMESTER 1			SEMESTER 2		
	SKS	ECTS		SKS	ECTS
English 1	2	3	English 2	2	3
Discrete Math	2	4	Calculus & linear algebra	3	4
Physics 1	3	4	Physics 2	3	4
Physics 1 Laboratory 1	1	1	Physics 2 Laboratory	1	1
Electrical Engineering 1*	3	4	Electrical Engineering 2*	3	4
Electrical Engineering 1 Lab*	1	1	Electrical Engineering 2 Lab*	1	1
Algorithm, Programming & Data Structure 1	3	4	Algorithm, Programming & Data Structure 2	3	4
Technical Drawing & CAD	3	4	Strength of Materials*	2	3
Introduction to Mechatronic Systems*	2	3	Ethics and Religious Philosophy	2	3
Engineering Statics*	2	3	Engineering Chemistry & Material Science	2	3
Total mandatory	22	31	Total mandatory	22	30
Extracurricular Courses			Extracurricular Courses		
German Language and Culture 1	2		German Language and Culture 2	2	
Mandarin Language and Culture 1	2		Mandarin Language and Culture 2	2	
TOTAL	26	31	TOTAL	23	30

SEMESTER 3			SEMESTER 4		
	SKS	ECTS		SKS	ECTS
Training	2	10	English 3	2	3
Internship	2	10	Machine Design*	3	3
Sensors and Instrumentation*	3	0	Electro-Pneumatics*	3	4
Analog and Digital Electronics*	3	4	Control Techniques*	3	4
Thermodynamics and Fluid Mechanics	3	4	Microcontroller*	3	4
Kinematics & Dynamics	2	4	Electric Drive*	3	3
Measurement and Engineering Statistics	3	4	Pancasila and Civics	3	4
Total mandatory	18	36	Total mandatory	22	28
Extracurricular Courses			Extracurricular Courses		
			German Language and Culture 3	4	
			Mandarin Language and Culture 3	2	
TOTAL	18	36	TOTAL	28	28

SEMESTER 5		SKS	ECTS	SEMESTER 6		SKS	ECTS
English 4	2	3	International Internship	6	30		
Indonesian Language	2	2	Electric Drive (FH) - Elective 4	1	2		
Electro-Hydraulics*	2	3	Power Electronics (FH) - Elective 5	1	2		
Programmable Logic Controllers*	3	4					
Mechatronics System Design 1*	3	4					
System Dynamics & Modeling	2	4					
Manufacturing Processes*	2	3					
Elective Subject 1	3	4					
Total mandatory	19	27					
Extracurricular Courses							
German Language and Culture 4	4						
Mandarin Language and Culture 4	4						
TOTAL	25	27	TOTAL	8	34		

SEMESTER 7		SKS	ECTS	SEMESTER 8		SKS	ECTS
English 5	2	3	Character & Professional Development	2	3		
Research Methodology	2	3	SMSCP Competence Certification*	3	4		
Manufacturing Process Management* (IE)	2	3	Bachelor Thesis	6	14		
Engineering Economics (IE)	2	3	Project Management (IE)	2	3		
Process Automation*	3	4	Intro to Entrepreneurship (IBA)	2	3		
SMSCP Exam Preparation*	1	3					
Elective Subject 2	3	4					
Elective Subject 3**	3	4					
Total mandatory	18	27	Total mandatory	15	27		
Extracurricular Courses							
TOTAL	18	27	TOTAL	15	27		

Total Compulsory : 144 SKS
Total ECTS : 240 ECTS
SKS : Satuan Kredit Semester
ECTS : European Credit Transfer System



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