



CURRICULUM

BIOMEDICAL ENGINEERING

Academic Year 2020/2021

SEMESTER 1	SKS	ECTS
English 1	2	3
Calculus and Linear Algebra 1	3	4
Physics 1	2	3
Physics 1 Laboratory	1	2
Electrical Engineering 1	3	4
Electrical Engineering 1 Laboratory	1	2
Biology 1	2	4
Biology Laboratory	1	2
Chemistry 1	3	4
Chemistry 1 Laboratory	1	2
Introduction To Programming	3	4
Total Mandatory	22	
Extracurricular Courses		
German Language and Culture 1	2	0
Mandarin Language and Culture 1	2	0
TOTAL	24	30

SEMESTER 2	SKS	ECTS
English 2	2	3
Ethics and Religious Philosophy	2	3
Calculus & Linear Algebra 2	3	4
Physics 2	2	3
Physics 2 Laboratory	1	2
Electrical Engineering 2	3	4
Electrical Engineering 2 Laboratory	1	2
Chemistry 2	3	4
Chemistry 2 Laboratory	1	2
Algorithm & Data Structure	3	4
Total Mandatory	21	
Extracurricular Courses		
German Language and Culture 2	2	0
Mandarin Language and Culture 2	2	0
TOTAL	23	31

SEMESTER 3	SKS	ECTS
Internship 1 (Indonesia)	3	10
Cytology & Histology	2	3
Applied Mathematics	3	4
Electronics	3	4
Electronics Laboratory	1	2
Digital System	3	4
Biomechanics (Statics)	2	3
Introduction to Biomedical Engineering	2	3
Biomedical Physics	2	3
TOTAL	21	36

SEMESTER 4	SKS	ECTS
English 3	2	3
Pancasila & Civic	3	4
Introduction to Engineering Statistics	2	3
Sensor & Measurement System	2	3
Biochemistry	3	4
Biochemistry Laboratory	1	2
Biomedical Devices Network	2	3
Signals & Systems	2	3
Biomaterials	2	3
Biomedical Electromagnetics	2	3
Total mandatory	21	
Extracurricular Courses		
German Language and Culture 3	4	0
Mandarin Language and Culture 3	4	0
TOTAL	25	22

SEMESTER 5	SKS	ECTS
English 4	2	3
Indonesian Language	2	2
Biomedical Instrumentation	3	4
Biomedical Instrumentation Laboratory	1	2
Microcontroller	2	3
Automatic Control System	2	3
Digital Signal Processing	2	3
Anatomy & Physiology	3	4
Anatomy & Physiology Laboratory	1	2
Medical Imaging	2	3
Total Mandatory	20	
Extracurricular Courses		
German Language and Culture 4	4	0
Mandarin Language and Culture 4	4	0
TOTAL	24	29

SEMESTER 6	SKS	ECTS
Internship 2 (abroad)	6	30
Elective 1 (abroad)	2	
Elective 2 (abroad)	2	
TOTAL	10	30

SEMESTER 7	SKS	ECTS
English 5	2	3
Entrepreneurship	2	3
Research Metodology	2	3
Bioinformatics (Computational Biology)	2	3
Elective 3	2	3
Elective 4	2	3
Elective 5	2	3
Elective 6	2	3
Total mandatory	16	
Elective Subjects		
Medical Information System	2	3
Hospital Management	2	3
Artificial Intelligence	2	3
Mechanics of Implant and Artificial Organ	2	3
Medical Biotechnology and Biomedical Diagnostics	2	3
Enzyme Biochemistry	2	3
Biodynamics and Gait Analysis	2	3
Biomedical System Design	2	3
Genomics, Transcriptomics, Proteomics and Metabolomics	2	3
TOTAL	16	21

SEMESTER 8	SKS	ECTS
Training & Competence Certification (PCA)	3	4
Thesis	6	15
Introduction to Clinical Engineering	2	3
CPDP (Character Development)	2	3
Total mandatory	13	
TOTAL	13	25

Total Offered SKS (Sistem Kredit Semester) : 174 SKS
 Total Compulsory : 144 SKS
 Total ECTS : 231 ECTS

SKS : Satuan Kredit Semester
 ECTS : European Credit Transfer System

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