

## 8 Curriculum: Biomedical Engineering - BME

### 8.1 General Data

- 1 Duration of Study (S-1) : 4 years
- 2 Academic Year : 2 Semesters  
Odd Semester: 1 July to 31 December  
Even Semester: 1 January to 30 June
- 3 Academic weeks / Semester : 16 (14 academics and 2 for examinations)  
Semester Credit Units (SKS) : 1 SKS (preparation, lecture, exercises)
- 4 Numbers of SKS per Semester : max 24 (academics)  
Total SKS for S-1 study : 144 – 160 SKS
- 5 Duration of one lecture : 50 Minutes
- 6 Number of Students per Subject : min. 12 Students
- 7 File Name : 08-Cur-BME-08-06-1.docx
- 8 Modification : Subject to Changes / 2017/07-15/PP

### 8.2 Structure of Study

1	2	3	4	5	6	7	8

	<b>Semester 1 – 6:</b> Academic Education (see curriculum), OFSE (Oral Final Study Examination)
	<b>Semester 7:</b> Research Semester (abroad for Double Degree) Thesis preparation
	<b>Semester 8:</b> Internship (4 months) Thesis Defense, Graduation

### 8.3 Scores

Grade Letter	Grade Wording	IULI	Indonesian Grade Points (GP)	Germany Grade Point	Grade Description	Student Representati
A	Excellent	86 - 100	4	1	Outstanding performance	10%
B	Good	71 - 85	3.0 - 3.9	2	Performance is considerably higher than the average requirements	25%
C	Satisfactory	56 - 70	2.0 - 2.9	3	Performance meets the average requirements	30%
D	Poor	46 - 55	1.0 – 1.9	4	Performance is poor and likely to lead to failure	25%
F	Fail	< 45	0	5	Performance does not meet the minimum criteria. Considerable further work is required	10%

## 8. Curriculum (in SKS)

<b>University Compulsory Subjects</b>
<b>Faculty Compulsory Subjects</b>
<b>Department Compulsory Subjects</b>
<b>Elective Subjects</b>

### 08 - Biomedical Engineering – BME

University Compulsory Subjects		Semester									
			1	2	3	4	5	6	7	8	Total
1	English	ENGL	2	2	2	2	1	1			10
2	Computer Network & IT Security	CNIS	2								2
3	Applied Statistics	MATH		2							2
4	Research Methodology	RESM		2							2
5	Environment Sciences	ENVI			2						2
6	Civics	CIVI				2					2
7	Ethics and Religious Philosophy	ETRP					2				2
8	Innovation & Product Development	PROD					2				2
9	E-Commerce	ECOM						2			2
10	Indonesian Language & Culture	IDLC						2			2
11	Pancasila	PANC						2			2
12	Oral Final Study Examination (OFSE)	OFSE						0			0
13	Research Semester	RESS							6		6
14	Elective : Internship / Project	INSP								3	3
15	Thesis / Thesis Defence	THES								6	6
<b>Total</b>			<b>4</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>9</b>	<b>45</b>

Life Science Faculty Compulsory Subjects			Semester								Σ
			1	2	3	4	5	6	7	8	
1	Introduction to Life Science	INLS	1								1
2	Physics & Laboratory 1	PHY1	3								3
3	Physics & Laboratory 2	PHY2		3							3
4	Engineering Mathematics 1	MAT1	3								3
5	Engineering Mathematics 2	MAT2		3							3
6	Applied Mathematics	MAT3			3						3
7	Numerical Methods	NUME				2					2
8	Chemistry	CHEM	2								2
9	Chemistry Laboratory	CHEL		1							1
10	Organic Chemistry	ORCH		3							3
11	Organic Chemistry Laboratory	ORCL			1						1
12	Electrical Engineering & Laboratory 1	EEL1	3								3
13	Electrical Engineering & Laboratory 2	EEL2		3							3
14	Material Science	MATS	2								2
15	Biology	BIOL	3								3
16	Biochemistry	BICH			3						3
17	Algorithm, Programming 1	PRO1	3								3
18	Algorithm, Programming 1	PRO2		3							3
19	Engineering Economy	EECO					2				2
20	Metrology and Quality Control	MEQC			2						2
<b>Total</b>			<b>20</b>	<b>16</b>	<b>9</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>49</b>

BME - Department Compulsory			Semester								Σ
			1	2	3	4	5	6	7	8	
1	Electric and Magnetic Fields	EAMF			3						3
2	Microcontroller & embedded System Design	MCES				3					3
3	Electronic Devices & Circuits 1	ECE1			2						2
4	Electronic Devices & Circuits 2	ECE2				2					2
3	Digital Signal Processing	DSPR					3				3
4	Anatomy and Physiology	ANPH			3						3
5	Signals and Systems	SSYS				2	2				4
6	Biomedical Instrumentation 1	BMI1				3					3
7	Biomedical Instrumentation Laboratory 1	BML1				1					1
8	Biomedical Instrumentation 2	BMI2					3				3
9	Biomedical Instrumentation Laboratory 2	BML2					1				1
10	Medical Biology	MEBI				2					2
11	Medical Imaging	MEIM						4			4
12	Biophysics	BIPH			3						3
13	Biomechanics	BIME					3				3
14	Biomedical Engineering Capstone Design	BECD						4			4
15	Electives	ELEC				3	3	5			11

Department		0	0	11	16	15	13	0	0	55
Faculty		20	16	9	2	2	0	0	0	49
University		4	6	4	4	5	7	6	9	45
Total		<b>24</b>	<b>22</b>	<b>24</b>	<b>22</b>	<b>22</b>	<b>20</b>	<b>6</b>	<b>9</b>	<b>149</b>

	Electives		1	2	3	4	5	6	7	8	
1	German Language 1 *)	GERM	2	2	2	2	2	2			12
2	German Language 2 **)	GERM	2	2							4
3	Mandarin	MAND	2	2	2	2	2	2			12
4	Business Arabic	ARAB	2	2	2	2	2	2			12
5	Biomedical		0	0	0	3	3	5	0	0	11

\*) Mandatory for Internship in Germany

\*\*\*) Pre-Semester Course (Study at TU Ilmenau / Germany)