

FACULTY OF LIFE SCIENCES AND TECHNOLOGY  
DEPARTMENT OF SUSTAINABLE ENERGY & ENVIRONMENT

Semester 1			Semester 2		
Course	SKS	ECTS	Course	SKS	ECTS
English 1	2	3	English 2	2	3
Calculus and Linear Algebra 1	3	4	Calculus and Linear Algebra 2	3	4
Physics 1	2	3	Physics 2	2	3
Physics 1 Laboratory	1	2	Physics 2 Laboratory	1	2
Chemistry 1	3	4	Chemistry 2	3	4
Chemistry 1 Laboratory	1	2	Chemistry 2 Laboratory	1	2
Introduction to Programming (IT)	3	4	Engineering Statistics	3	4
Technical Drawing	2	3	Ethics and Religious Philosophy	2	3
Introduction to Electrical Engineering	2	3	Introduction to Environmental Engineering	2	3
Materials Science	2	3	Energy Policy and Conventional Energy	3	4
<b>Total mandatory</b>	<b>21</b>	<b>31</b>	<b>Total mandatory</b>	<b>22</b>	<b>32</b>
<b>Extracurricular Courses</b>			<b>Extracurricular Courses</b>		
German Language and Culture 1	2		German Language and Culture 2	2	
Mandarin Language and Culture 1	2		Mandarin Language and Culture 2	2	
<b>TOTAL</b>	<b>25</b>	<b>31</b>	<b>TOTAL</b>	<b>26</b>	<b>32</b>

Semester 3			Semester 4		
Course	SKS	ECTS	Course	SKS	ECTS
Internship 1 (Indonesia)	2	6	English 3	2	3
Indonesian Language	2	2	Pancasila and Civic	3	4
Materials and Energy Balance	3	4	Unit Operations and Heat Transfer	3	4
Analytical Instrumentation	2	3	Renewable Energy 2 (Solar-Wind-Hydro)	4	6
Renewable Energy 1 (Bioenergy-Ocean)	4	6	Numerical Methods	2	3
Transport Phenomena	2	3	Fluid Mechanics	2	3
Physical Chemistry	3	4	Thermodynamics	3	4
English 4	2	3	Thermodynamics Laboratory	1	2
<b>Total mandatory</b>	<b>20</b>	<b>31</b>	<b>Total mandatory</b>	<b>20</b>	<b>29</b>
<b>Extracurricular Courses</b>			<b>Extracurricular Courses</b>		
			German Language and Culture 3	4	
			Mandarin Language and Culture 3	4	
<b>TOTAL</b>	<b>20</b>	<b>31</b>	<b>TOTAL</b>	<b>28</b>	<b>29</b>

Semester 5			Semester 7		
Course	SKS	ECTS	Course	SKS	ECTS
Environmental Chemistry	4	6	English 5	2	3
Waste Treatment & Resources Efficiency	4	6	Process Equipment Design	3	4
Ecobalance	2	3	Energy Modelling	4	6
Decentralized Energy Supply	2	3	Research Methodology	2	3
Environment & Process Metrology	4	6	Elective subjects	3	4
Water Purification	4	6	Process Control	2	3
			Energy conservation and audit	4	6
			Hydrogen-Nuclear Energy	2	3
<b>Total mandatory</b>	<b>20</b>	<b>30</b>	<b>Total mandatory</b>	<b>22</b>	<b>32</b>
<b>Extracurricular Courses</b>			<b>Extracurricular Courses</b>		
German Language and Culture 4	4				
Mandarin Language and Culture 4	4				
<b>TOTAL</b>	<b>28</b>	<b>30</b>	<b>TOTAL</b>	<b>22</b>	<b>32</b>

Semester 6			Semester 8		
Course	SKS	ECTS	Course	SKS	ECTS
Internship 2 (abroad)	5	28	Oral Final Study Examination (OFSE)	3	4
Returnee Seminar	1	2	Thesis	6	15
			Engineering Economy and Analysis	2	3
			Technopreneurship	2	3
			<b>Total mandatory</b>	<b>13</b>	<b>25</b>
<b>TOTAL</b>	<b>6</b>	<b>30</b>	<b>TOTAL</b>	<b>13</b>	<b>25</b>

Elective subjects (Semester 7)					
Elective 3	Bioprocess Engineering			3	4
	Reactor Engineering			3	4
	Green Building			3	4