

# CURRICULUM

## INDUSTRIAL ENGINEERING

INTELLIGENT INDUSTRIAL AND SYSTEM ENGINEERING -  
DOUBLE DEGREE PROGRAM

with Fachhochschule Südwestfalen, Germany  
Academic Year 2020/2021

SEMESTER 1			SEMESTER 2		
	SKS	ECTS		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 Laboratory 1	1	1	Static and Strength of Materials	2	3
Algorithm, Programming and Data Structure	3	4	Manufacturing Process	3	4
Chemistry	3	4	Chemical Process Industry	3	4
Material Science	2	3	Operation Research 1	3	4
Technical Drawing	3	4	Introduction to Economic	2	3
Introduction To Industrial Engineering	2	3	Ethics and Religious Philosophy	2	3
<b>Total mandatory</b>	<b>21</b>	<b>29</b>	<b>Total mandatory</b>	<b>22</b>	<b>31</b>
Extracurricular Courses			Extracurricular Courses		
German Language and Culture 1	2	0	German Language and Culture 2	2	0
Mandarin Language and Culture 1	2	0	Mandarin Language and Culture 2	2	0
<b>TOTAL</b>	<b>23</b>	<b>0</b>	<b>TOTAL</b>	<b>24</b>	<b>31</b>

SEMESTER 3			SEMESTER 4		
	SKS	ECTS		SKS	ECTS
Engineering Statistics	3	4	English 3	2	3
Production Planning and Control	2	3	Cost Estimation	2	3
Laboratory of Production Planning and Control	1	1	Project and Enterprise Management	2	3
Operation Research 2	3	4	Logistics and Supply Chain	3	4
Ergonomics and Work System Design 1	2	3	System Modeling	2	3
Product Design and Development	3	4	Ergonomics and Work System Design 2	2	3
Engineering Economy	2	3	Laboratory of Ergonomics and Work System Design	1	1
Facilities Planning and Analysis	3	4	Lean Operations	2	3
Practical Training	2	10	Pancasila and Civic	3	4
			Integrated Industrial Engineering Project	2	3
			<b>Total mandatory</b>	<b>21</b>	<b>30</b>
			Extracurricular Courses		
			German Language and Culture 3	4	0
			Mandarin Language and Culture 3	4	0
<b>TOTAL</b>	<b>21</b>	<b>36</b>	<b>TOTAL</b>	<b>25</b>	<b>30</b>

SEMESTER 5	SKS	ECTS
English 4	2	3
Internship 1 (Local Internship)	2	10
Quality Control and Assurance	2	3
Indonesian Language	2	3
Industrial Automation	3	4
Optimization	2	3
Elective 1	3	4
Elective 2	3	4
<b>Total mandatory</b>	<b>19</b>	<b>34</b>
Extracurricular Courses		
German Language and Culture 4	4	0
Mandarin Language and Culture 4	4	0
<b>TOTAL</b>	<b>21</b>	<b>34</b>

SEMESTER 6	SKS	ECTS
Internship 2 (International Internship)	6	30
Elective 3	2	3
Elective 4	2	3
<b>TOTAL</b>	<b>10</b>	<b>36</b>

SEMESTER 7	SKS	ECTS
English 5 (Academic Writing)	2	3
System Simulation	3	4
Industrial Engineering System Design	3	4
Industrial and Enterprise Information System	3	4
Human Capital Management	2	3
Research Methodology	2	3
Entrepreneurship and Business Development	2	3
<b>TOTAL</b>	<b>17</b>	<b>24</b>

SEMESTER 8	SKS	ECTS
Professional Competence Assessment (PCA) / Oral Final Study Examination (OFSE)	3	4
Eco Balance	2	3
Character and Professional Development Program (CPDP)	2	3
Bachelor Thesis	6	15
<b>TOTAL</b>	<b>13</b>	<b>25</b>

### ELECTIVE SUBJECTS

Intelligent Industrial and System Engineering	Subject Name	SKS	ECTS
Business Intelligence and Analytics		3	4
Strategic Management		3	4
Service System Engineering and Management		3	4
Industrial Systems Maintenance		3	4
Risk Management		2	3
Finance Engineering		2	3
Enterprise Resource Planning		2	3
ERP and Lab		2	3
Challenges in Int. Management (Globalization and CSR)		2	3

**Total Compulsory : 144 SKS**  
**Total ECTS : 245 ECTS**  
**SKS : Satuan Kredit Semester**  
**ECTS : European Credit Transfer System**

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