International University of Sarajevo (IUS)

Faculty of Engineering and Natural Sciences (FENS)

Mechanical Engineering, Undergraduate Curriculum

Semester I

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
NS104	General Chemistry		3	1	1	6
MATH101	Calculus I		3	2	0	6
NS102	Physics		3	1	2	6
ELIT100	Academic English and Effective Communication		2	0	0	6
ENS221	Introduction to Engineering		3	0	0	3
ENS103	Introduction to Machine Design		2	0	1	3
		Semester Total =				**30**

Semester II

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
MATH102	Calculus II	MATH101	3	2	0	6
NS122	Physics II	NS102	3	1	2	6
ENS209	Statics	MATH101	3	2	0	3
ENS213 / CS103	Programming for Engineers / Introduction to Programming		3	2	0	6
MATH201	Linear Algebra	MATH101	3	2	0	6
ENS207	Engineering Graphics		1	2	0	3
		Semester Total =				**30**

Semester III

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
ME208	Dynamics	NS102	3	2	0	3
ENS202	Thermodynamics	NS102	3	2	0	6
ENS205	Materials Science	NS104	3	0	1	3
MATH202	Differential Equations	MATH101	3	2	0	6
ENS208	Introduction to Manufacturing Systems	ENS103	3	0	2	3
ME210	Strength of Materials I	ENS209	3	2	0	3
MATH203	Introduction to Probability and Statistics	MATH101	3	2	0	6
		Semester Total =				**30**

Semester IV

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
MATH205	Numerical Analysis	MATH202	3	2	0	6
ENS204	Thermodynamics II	ENS202	3	2	0	6
ENS203	Electrical Circuits I	NS122	3	2		6
ME304	Fluid Mechanics	MATH202	3	2	0	6
ME211	Strength of Materials II	ME210	3	2	0	3
ME206	Engineering Materials	ENS205	3	0	0	3
		Semester Total =				**30**

Semester V

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
ME312	Machine Elements	ME210	3	2	0	6
ME306	Heat and Mass Transfer	MATH202	3	2	0	6
	Foreign Language Elective I See Table 1					3
	Program Elective I See Table 2	Senior standing				6
	Program Elective II See Table 2	Junior standing				6
	University Elective See Table 1					3
		Semester Total =				**30**

Semester VI

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
EE305	Instrumentation and Measurements	ENS203	3	0	2	6
ELIT200	Critical Reading and Writing		2	1	0	6
ENS206	System Modeling	MATH202	3	2	0	6
LAW109	Law and Ethics	Junior standing	3	0	0	6
NS112	Understanding Science and Technology		3	0	0	3
	Foreign Language Elective II See Table 1					3
		Semester Total =				**30**

Semester VII

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
EE311	Control System Design	ENS206	3	2	0	6
	Program Elective 3 See Table 2	Junior standing				6
	Program Elective 4 See Table 2	Junior standing				6
	Free Elective 1					6
ME370	Work Placement / Internship	Junior Standing	0	14		6
		Semester Total =				**30**
Total Credits Required for Graduation						240
Total Credits of Electives						57

Semester VIII

Code	Title	Prerequisites	Lec	Tut	Lab	ECTS
	Program Elective 5 See Table 2	Senior standing				6
	Program Elective 6 See Table 2	Senior standing				6
	Program Elective 7 See Table 2	Senior standing				6
	Free Elective 2					6
ENS490	Graduation Project	Last semester	0	4		6
		Semester Total =				**30**
No. of Courses						47
Average ECTS Credit Load Per Semester						30
Elective Ratio						24%

pg 1/2

IMPORTANT NOTES

7 available Program elective courses are taken from junior, senior or graduate level courses in ME, as seen in Table 2. Three program elective courses can be chosenfrom other junior or senior level courses offered in FENS with consent of the Academic Advisor.

Junior standing means the student has successfully completed at least 105 ECTS units in the program.

Senior standing means the student has successfully completed at least 165 ECTS units in the program.

University Elective can be taken from Table 1: University Elective Courses List.

2 Language elective courses are taken from the list of language courses provided (cannot be the student's mother tongue).

2 Free elective courses are taken from any faculty or program.

Work placement/Internship is typically practiced in summer for a period of at least 25 work days, totalling at least 150 hours.

This curriculum is being implemented for the new freshman students who entered the freshman class in the 2022-2023 academic year or after.

Table 1: University elective courses						
Code	**Title**		T	P	**ECTS**	
IUS Pool of 3 ECTS University Courses, AY 2017-2018						
ARCH107	Understanding Art and Architecture		2	0	3	
CS100	Computer Skills		0	2	3	
CULT101	Understanding Cultural Encounters		2	0	3	
ECON105	Understanding Business		2	0	3	
ECON108	Matlab		1	1	3	
ECON107	Python		1	1	3	
HUM100	Social Responsibility and Sustainable Development		2	0	3	
NS111	Understanding Nature and Knowledge		2	0	3	
SPS140	Understanding Religion		2	0	3	
	Foreign Language Elective I **(&)**		0	2	3	
	Foreign Language Elective II **(&)**		0	2	3	
(&) *Scholarship students will take either Spoken Turkish I and II or Spoken Bosnian I and II.*						

Table 2: Program elective courses										
Code	**Title**	**Prerequisites**			**ECTS**		**Code**	**Title**	**Prerequisites**	**ECTS**
ME301	Engineering Project I	Junior standing			6		EE201	Analog Electronics I	ENS203	6
ME302	Engineering Project II	Junior standing			6		EE202	Electrical Circuits II	ENS203	6
ME313	Mechanical Vibrations	Junior standing			6		EE221	Object Oriented Programming	ENS213 or CS103	6
ME401	Engineering Design I	Junior standing			6		EE325	Embedded Systems	ENS213 or CS103	6
ME402	Engineering Design II	Junior standing			6		ENS201	Electromagnetism I	MATH102	6
ME410	Unmanned Aerial Vehicles	Junior standing			6		IE305	Work Analysis and Design	Junior standing	6
ME411	Renewable Energy Technology	Junior standing			6		IE307	Quality and Reliability Engineering	Junior standing	6
ME412	Introduction to Computational Fluid Dynamics	Senior standing			6		IE309	Ergonomics	Junior standing	6
ME414	Energy Conversion Technology	Senior standing			6		IE318	Engineering Economics	Junior standing	6
ME415	Computational methods	Senior standing			6		IE425	Computer Aided Design And Manufacturing	Senior standing	6
ME416	Turbomachinery	Senior standing			6		IE408	Project Management	Senior standing	6
ME430	Hydraulics and Pneumatics	Senior standing			6		ARCH408	Building Physics	Senior standing	4
ME432	HVAC	Senior standing			6		MATH306	Statistical Modeling	MATH203	6
ME436	Plumbing System and Design	Senior standing			6		CS304	Computer Architecture	CS103	6
IE306	Simulation	MATH203			6		IE301	Production Planning I	MATH203	6
Abbreviations: T (Theory), P (Practice), ECTS credit							IE303	Operations Research I	MATH201	6