

PLAN OF STUDY

FACULTY: MECHANICAL AND POWER ENGINEERING

MAIN FIELD OF STUDY: MECHANICAL ENGINEERING AND MACHINE BUILDING

EDUCATION LEVEL: 2nd level, Master of Science

FORM OF STUDIES: part-time

PROFILE: general academic

SPECIALIZATION: **ENGINEERING OF AVIATION**

LANGUAGE OF STUDY: polish

Faculty Council Resolution of 20.09.2017
In effect since 01.10.2017

Plan of studies structure in point layout

30				
29			master	
28			individual	
27			student project	
26				
25				
24				master
23				thesis
22				
21				
20				
19				
18				
17				
16				
15				
14				
13				
12				
11				
10				master seminar
9				
8				
7				
6				
5				
4				
3	humanities		management	
2		foreign	course	
1	foreign language	language		
	sem. 1	sem. 2	sem. 3	sem. 4

basic and obligatory courses
general and obligatory courses
general and optional courses
obligatory main-field-of-study courses
optional main-field-of-study courses
optional/specialization courses

1. Set of obligatory and optional courses and groups of courses in semestral arrangement

Semester 1

Obligatory courses number of ECTS points 10

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	MNN0533	Mechanics Analytical	1,8					K2MBM_W03	27	120	4	2	T	Z			PD	Ob
2	MNN0591	Mechatronics and Control Systems	1,2					K2MBM_W01	18	120	4	2	T	E			K	Ob
3	MNN0591	Mechatronics and Control Systems			1,2			K2MBM_U01	18	60	2	1,5	T	Z		P	K	Ob
Total			3		1,2				63	300	10	6						

Optional courses (minimum 108 hours in semester) number of ECTS points 20

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	JZL100589C JZL100846C JZL100847C	Foreign Language (continuation), level B+		0,6				K2MBM_U08	9	30	1	0,75	T	Z	O	P	KO	W
2	HNN100400BK	Humanities Course	0,6					K2MBM_W07 K2MBM_K02 K2MBM_K06	9	60	2	1	T	Z	O		KO	W
3	MNN0842	Bases of the Theory of Oscillation	1,2					S2ILO_W03	18	120	4	2	T	E			S	W
4	MNN0842	Bases of the Theory of Oscillation		0,6				S2ILO_U05	9	30	1	0,75	T	Z		P	S	W
5	MNN0061	Structure of Aircrafts	1,2					S2ILO_W02	18	60	2	1	T	Z			S	W
6	MNN0061	Structure of Aircrafts		0,6				S2ILO_U03	9	30	1	0,75	T	Z		P	S	W
7	MNN0952	Design of Propulsion Units	1,2					S2ILO_W01	18	120	4	2	T	E			S	W
8	MNN0952	Design of Propulsion Units		0,6				S2ILO_U01	9	30	1	0,75	T	Z		P	S	W
9	MNN0952	Design of Propulsion Units				0,6		S2ILO_U02	9	120	4	3	T	Z		P	S	W
Total			4,2	2,4		0,6			108	600	20	12						

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²Traditional – enter T, remote – enter Z

³Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)

⁴University-wide course /group of courses – enter O

⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

⁶ KO – general education, PD – basic sciences, K – field-of-studies, S – specialization

⁷ Optional – enter W, obligatory – enter Ob

Altogether in semester 1

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
7,2	2,4	1,2	0,6		171	900	30	18

Semester 2

Obligatory courses number of ECTS points 5

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	MNN1384	Modern Engineering Materials	0,6					K2MBM_W02	9	60	2	1	T	Z			K	Ob
2	MNN1384	Modern Engineering Materials			1,2			K2MBM_U02	18	60	2	1,5	T	Z		P	K	Ob
3	MNN1384	Modern Engineering Materials					0,6	K2MBM_U06	9	30	1	0,75	T	Z		P	K	Ob
Total			0,6		1,2		0,6		36	150	5	3,25						

Optional courses (minimum 117 hours in semester) number of ECTS points 25

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	JZL100586C JZL100591C JZL100597C	Foreign Language (second), any level		1,8				K2MBM_U09	27	60	2	1,5	T	Z	O	P	KO	W
2	MNN0602	Numerical Methods in Design of Constructions	0,6					S2ILO_W11	9	30	1	0,5	T	Z			S	W
3	MNN0602	Numerical Methods in Design of Constructions				1,2		S2ILO_U09	18	240	8	6	T	Z		P	S	W
4	MNN0182	Flight Dynamics and Aeroelasticity of Aircrafts	1,2					S2ILO_W05	18	120	4	2	T	E			S	W

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⁵Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses

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⁷Optional – enter W, obligatory – enter Ob

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
5	MNN0182	Flight Dynamics and Aeroelasticity of Aircrafts				1,2		S2ILO_U08	18	210	7	5,25	T	Z		P	S	W
6	MNN1392	Selected Problems on Fluid Mechanics	0,6					S2ILO_W04	9	30	1	0,5	T	Z			S	W
7	MNN1392	Selected Problems on Fluid Mechanics		0,6				S2ILO_U06	9	30	1	0,75	T	Z		P	S	W
8	MNN1392	Selected Problems on Fluid Mechanics			0,6			S2ILO_U07	9	30	1	0,75	T	Z		P	S	W
Total			2,4	2,4	0,6	2,4			117	750	25	17,25						

Altogether in semester 2

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
3	2,4	1,8	2,4	0,6	153	900	30	20,5

Semester 3

Obligatory courses number of ECTS points 5

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	MNN0673	Modelling and Optimization	0,6					K2MBM_W04	9	60	2	1	T	E			PD	Ob
2	MNN0673	Modelling and Optimization		1,8				K2MBM_U03	27	90	3	2,25	T	Z		P	PD	Ob
Total			0,6	1,8					36	150	5	3,25						

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Optional courses (minimum 206 hours in semester) number of ECTS points 25

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			university-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	ZNN100400BK	Management Course	1,2					K2MBM_W08 K2MBM_K05	18	90	3	1,5	T	Z	O		KO	W
2	MNN1461	Safety Management in Aviation	1,2					S2ILO_W10	18	60	2	1	T	Z			S	W
3	MNN0552	Helicopter Flight Mechanics	1,2					S2ILO_W09	18	60	2	1	T	Z			S	W
4	MNN0552	Helicopter Flight Mechanics		0,6				S2ILO_U11	9	30	1	0,75	T	Z		P	S	W
5	MNN0552	Helicopter Flight Mechanics				0,6		S2ILO_U12	9	60	2	1,5	T	Z		P	S	W
6	MNN1661	Aircraft Power Systems	0,6					S2ILO_W08	9	30	1	0,5	T	Z			S	W
7	MNN1661	Aircraft Power Systems				0,6		S2ILO_U04	9	60	2	1,5	T	Z		P	S	W
8	MNN1302	Durability and Reliability of Aircraft	1,2					S2ILO_W07	18	60	2	1	T	Z			S	W
9	MNN0912	Aviation Law	0,6					S2ILO_W06	9	30	1	0,5	T	Z			S	W
10	MNN0912	Aviation Law				0,6		S2ILO_U10	9	30	1	0,75	T	Z		P	S	W
11	MNN1492	Master Individual Student Project				5,33		K2MBM_U07 K2MBM_K01 K2MBM_K04 K2MBM_K05	80	240	8	1	T	Z		P	K	W
Total			6	0,6		6,53	0,6		206	750	25	11						

Altogether in semester 3

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
6,6	2,4		6,53	0,6	242	900	30	14,25

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Semester 4

Obligatory courses number of ECTS points 10

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	MNN1474	Integrated Production Systems	1,2					K2MBM_W06	18	60	2	1	T	Z			K	Ob
2	MNN1474	Integrated Production Systems			1,2			K2MBM_U05	18	60	2	1,5	T	Z		P	K	Ob
3	MNN0023	Failure Analysis of Machines and Devices	1,2					K2MBM_W05	18	60	2	1	T	Z			K	Ob
4	MNN0023	Failure Analysis of Machines and Devices			0,6			K2MBM_U04	9	60	2	1,5	T	Z		P	K	Ob
5	MNN1551	Diploma Seminar					1,2	K2MBM_U06 K2MBM_U07 K2MBM_K01 K2MBM_K03 K2MBM_K04 K2MBM_K05	18	60	2	1,5	T	Z		P	K	Ob
Total			2,4		1,8		1,2		81	300	10	6,5						

Optional courses number of ECTS points 20

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol GK)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form ² of course/group of courses	Way ³ of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes ¹			universit y-wide ⁴	practical ⁵	kind ⁶	type ⁷
1	MNN1551	Master Thesis						K2MBM_U07 K2MBM_K01 K2MBM_K04 K2MBM_K05		600	20	4	T	Z		P	K	W
Total										600	20	4						

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Altogether in semester 4

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes ¹
lec	cl	lab	pr	sem				
2,4		1,8		1,2	81	900	30	10,5

2. Set of examinations in semestral arrangement

Course code	Names of courses ending with examination	Semester
MNN0591 MNN0842 MNN0952	1. Mechatronics and Control Systems 2. Bases of the Theory of Oscillation 3. Design of Propulsion Units	1
MNN0182	1. Flight Dynamics and Aeroelasticity of Aircrafts	2
MNN0673	1. Modelling and Optimization	3

3. Numbers of allowable deficit of ECTS points after particular semesters

Semester	Allowable deficit of ECTS points after semester
1	14
2	19
3	0