

# CURRICULUM

## Bachelor's degree program in Aeronautical Engineering

ECTS Subject code T p AE No

- T – type of course: B for BEng, M for MEng;

- I - IV semester – fundamental subjects - professional field 5.5. Transport, Navigation, Aviation

- p - additional symbol for Plovdiv Branch

-AE – specialty “Aeronautical Engineering” in Bulgarian;

- No – number of the subject;

Lectures (L), Tutorials (Tut.), Labs (Lab.), Auditorium Total (AT), Self-Study (SS), Exam (E),

Continuous Assessment (CA), Semester Project (SP), Semester Assignment (course work) (SA).

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER I</b>													
1	<b>MAT12</b>	Mathematics I	30	30	0	<b>60</b>	150	<b>210</b>	1				7
2	<b>PHY01</b>	Physics	45	15	30	<b>90</b>	120	<b>210</b>	1				7
3	<b>CHE01</b>	Chemistry	30	0	15	<b>45</b>	105	<b>150</b>		1			5
4	<b>CCE23</b>	Information and Communication Technologies	30	0	45	<b>75</b>	165	<b>240</b>	1			1	8
5	<b>LNG01</b>	Foreign Language I	0	30	0	<b>30</b>	30	<b>60</b>		1			2
6	<b>SPR01</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>135</b>	<b>75</b>	<b>90</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>30</b>
<b>SEMESTER II</b>													
7	<b>MAT22</b>	Mathematics II	30	30	0	<b>60</b>	120	<b>180</b>	1				6
8	<b>ENG01</b>	Material Science	45	0	45	<b>90</b>	120	<b>210</b>	1			1	7
9	<b>MEC01</b>	Mechanics I	30	15	15	<b>60</b>	150	<b>210</b>	1			1	7
10	<b>EEA21</b>	Basics of Electrical Engineering and Electronics	30	0	30	<b>60</b>	90	<b>150</b>		1			5
11	<b>LNG02</b>	Foreign Language II	0	30	0	<b>30</b>	30	<b>60</b>		1			2
12	<b>PRC01</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			2
13	<b>SPR02</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>135</b>	<b>75</b>	<b>90</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>30</b>
<b>SEMESTER III</b>													
14	<b>MAT31</b>	Mathematics III	30	30	0	<b>60</b>	120	<b>180</b>	1				6
15	<b>MEC02</b>	Mechanics II	30	0	30	<b>60</b>	150	<b>210</b>	1			1	7
16	<b>MEC03</b>	Strength of Materials	45	0	30	<b>75</b>	135	<b>210</b>	1			1	7
17	<b>ENG02</b>	Engineering Graphics	30	0	45	<b>75</b>	105	<b>180</b>		1		1	6
18	<b>CCE24</b>	Internet Technologies	15	15	0	<b>30</b>	60	<b>90</b>		1			3
19	<b>SPR03</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>150</b>	<b>45</b>	<b>105</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>30</b>
<b>SEMESTER IV</b>													
20	<b>MEC10</b>	Machine Elements	45	0	30	<b>75</b>	105	<b>180</b>	1				6
21	<b>MEC11</b>	Fluid Mechanics	30	0	30	<b>60</b>	90	<b>150</b>	1				5
22	<b>ENR04</b>	Thermodynamics and Heat Transfer	30	0	30	<b>60</b>	60	<b>120</b>	1				4
23	<b>MEC09</b>	Theory of Machines and Mechanisms	30	0	15	<b>45</b>	75	<b>120</b>	1			1	4
24	<b>EEA23</b>	Analog and Digital Circuits	30	15	15	<b>60</b>	90	<b>150</b>		1		1	5
25	<b>MEC07</b>	Machine Elements - project	0	0	0	<b>0</b>	90	<b>90</b>			1		3
26	<b>PRC02</b>	Practicum	0	0	0	<b>0</b>	60	<b>60</b>		1			2
27	<b>SPR04</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			1
<b>Total</b>			<b>165</b>	<b>15</b>	<b>120</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>30</b>

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER V</b>													
28	BpAE01	Aircraft Aerodynamics	45	0	15	60	120	180	1				6
29	BpAE02	Air Navigation I	30	15	15	60	90	150	1				5
30	BpAE03	Technology of aircraft manufacturing	45	15	15	75	105	180		1			6
31	BpAE04	Piston Engines	30	0	15	45	105	150		1			5
32	BpAE05	Radiotechnics	30	0	15	45	105	150	1				5
33	BpAE06	Aircraft Aerodynamics - project	0	0	0	0	90	90			1		3
<b>Total</b>			<b>180</b>	<b>30</b>	<b>75</b>	<b>285</b>	<b>615</b>	<b>900</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>30</b>
<b>SEMESTER VI</b>													
34	BpAE07	Flight Dynamics I	30	0	15	45	75	120	1				4
35	BpAE08	Air Navigation II	30	0	15	45	105	150		1			5
36	BpAE09	Avionics I	30	0	15	45	75	120	1				4
37	BpAE10	Copmulsory Optional Subject (List 1***)	30	0	15	45	75	120		1			4
38	BpAE11	Compulsory Optional Subject (List 2***)	45	0	15	60	120	180	1				6
39	BpAE12	Compulsory Optional Subject (List 3***)	45	0	15	60	90	150	1				5
40	BpAE13	Flight Dynamics I - project	0	0	0	0	60	60			1		2
<b>Total</b>			<b>210</b>	<b>0</b>	<b>90</b>	<b>300</b>	<b>600</b>	<b>900</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>30</b>
<b>SEMESTER VII</b>													
41	BpAE14	Flight Safety	30	0	15	45	105	150	1				5
42	BpAE15	Flight Dynamics II	30	0	15	45	75	120	1			1	4
43	BpAE16	Aircraft II	45	15	15	75	105	180		1			6
44	BpAE17	Electric systes and devices	15	0	15	30	60	90	1				3
45	BpAE18	Compulsory Optional Subject (List 4***)	45	15	15	75	105	180	1				6
46	BpAE19	Compulsory Optional Subject (List 5***)	30	0	15	45	75	120		1			4
47	BpAE20	Compulsory Optional Subject (List 6***) - project	0	0	0	0	60	60			1		2
<b>Total</b>			<b>195</b>	<b>30</b>	<b>90</b>	<b>315</b>	<b>585</b>	<b>900</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>30</b>
<b>SEMESTER VIII</b>													
48	BpAE21	Aviation Maintanace	30	0	15	45	105	150	1				5
49	BpAE22	Avionics II	30	0	15	45	105	150	1			1	5
50	BpAE23	Compulsory Optional Subject (List 7***)	45	0	15	60	120	180		1			6
51	BpAE24	Aviation Management	30	15	0	45	75	120	1				4
52	BpAE25	State Exam	0	0	0	0	300	300					10
<b>Total</b>			<b>135</b>	<b>15</b>	<b>45</b>	<b>195</b>	<b>705</b>	<b>900</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>30</b>

\*Remark: Subjects BpAE10.1, BpAE11.1, BpAE12.1, BpAE18.1, BpAE19.1, BpAE20.1 and BpAE23.1 form module "Repair and Overhaul of Aircraft " with ICAO categories engineering licensing equivalene

\*\*Remark: Subjects BpAE10.2, BpAE11.2, BpAE12.2, BpAE18.2, BpAE19.2, BpAE20.2 and BpAE23.2 form module "Repair and overhaul of Aircraft Avionics" with ICAO categories engineering licensing equivalene

## LIST OF THE COMPULSORY OPTIONAL SUBJECTS

<b>List 1</b>		<b>ECTS =4</b>
1	Hydraulic and pneumatic actuation	<b>BpAE10.1</b>
2	Automatic Control Theory	<b>BpAE10.2</b>
<b>List 2</b>		<b>ECTS = 6</b>
1	Aircraft I	<b>BpAE11.1</b>
3	Aircraft and Aircraft Engines	<b>BpAE11.2</b>
<b>List 3</b>		<b>ECTS =5</b>
1	Aircraft Engines I	<b>BpAE12.1</b>
2	Electronic Devices	<b>BpAE12.2</b>
<b>List 4</b>		<b>ECTS = 6</b>
1	Aircraft Engines II	<b>BpAE18.1</b>
2	Aviation radio-location systems and devices	<b>BpAE18.2</b>
<b>List 5</b>		<b>ECTS =4</b>
1	Aircraft Design	<b>BpAE19.1</b>
2	Aviation communication and information systems	<b>BpAE19.2</b>
<b>List 6</b>		<b>ECTS =2</b>
1	Aircraft Design - project	<b>BpAE20.1</b>
2	Aviation communication and information systems - project	<b>BpAE20.2</b>
<b>List 7</b>		<b>ECTS =2</b>
1	Aircraft and Engine Control Systems	<b>BpAE23.1</b>
2	Air Traffic Control	<b>BpAE23.2</b>

## LIST OF THE FACULTATIVE SUBJECTS

№	Code	SUBJECT	Semester Load						Assesment				ECTS credits
			L	Tut.	Lab.	AT	SS	Total	E	CA	SP	SA	
<b>SEMESTER I</b>													
1	<b>FaBpAE01</b>	Introductory course	15	0	0	<b>15</b>	15	<b>30</b>					<b>1</b>
<b>SEMESTER II</b>													
<b>SEMESTER V</b>													
1	<b>FaSPR05</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			<b>1</b>
2	<b>FaBpAe02</b>	English language	0	30	0	<b>30</b>	30	<b>60</b>		1			<b>2</b>
<b>SEMESTER VI</b>													
1	<b>FaSPR06</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			<b>1</b>
2	<b>FaBpAE03</b>	Project Management (in English)	15	0	30	<b>45</b>	45	<b>90</b>		1			<b>3</b>
<b>SEMESTER VII</b>													
1	<b>FaSPR07</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			<b>1</b>
<b>SEMESTER VIII</b>													
1	<b>FaSPR08</b>	Sport	0	0	0	<b>0</b>	30	<b>30</b>		1			<b>1</b>