

# COURSE SYLLABUS

<b>I. GENERAL DATA ON SUBJECT COURSE</b>	
CODE AND NAME OF SUBJECT	SD.079 Aircraft Construction Õhusõiduki ehitus
ACADEMIC YEAR, TERM, FORM OF STUDIES	2019/2020 spring term <i>daytime study</i>
CURRICULUM, SPECIALITY AND MODULE WHERE THE SUBJECT BELONGS TO	Optional course for exchange students and other students
SCOPE OF SUBJECT	4,0 ECTS
FORM OF CONTROL	Differentiative
WORKLOAD AND FORMAT OF STUDIES	Class studies 40 h, individual work with materials 60 h
LANGUAGE OF INSTRUCTION	English
ADDITIONAL INFORMATION (prerequisite subject courses, restrictions on participating in the course, etc)	No prerequisite courses necessary
LECTURER	Jaan Susi

<b>II. THE GOAL, LEARNING OUTCOMES AND DESCRIPTION OF SUBJECT COURSE</b>	
LEARNING OUTCOMES	<p>The student having covered the subject course:</p> <ul style="list-style-type: none"> <li>• Knows the basic construction of airframe – fuselage, wings and tail planes;</li> <li>• Describes the basic forces acting to different parts of an aircraft;</li> <li>• Describes and explains the main types, construction and function of primary and secondary control systems of an aircraft;</li> <li>• Describes and explains the construction and functions of the landing gear of an aircraft;</li> <li>• Knows the general construction and basic functions of aircrafts' pressurization systems, ice-protection systems, oxygen systems and fire protection systems;</li> <li>• Knows and describes the principles of work of different types of aircraft power plants – reciprocating engine, turboprop, turbo jet and turbofan engines.</li> </ul>

<b>III. GRADING SYSTEM AND CRITERIA</b>	
PREREQUISITES TO BE ALLOWED TO TAKE EXAMINATION/PRELIMINARY EXAMINATION	Four intermediate tests are to be passed during the class studies. All of the students, having passed successfully any of those particular tests, have the right to use the result of that particular test at the final examination. If a test failed or not performed, the material of that particular test should be included into the final test. No intermediate tests can be retaken.
FORMATION OF EXAMINATION MARK/OF PRELIMINARY EXAM	The final result will be determined by the results of intermediate tests only or in part, or by the final test only.
OPPORTUNITIES FOR SETTLING ARREARS	The students can retake the exam once before the end of semester.

GRADING SYSTEM	RESPECTIVE MARKING CRITERIA
1. Intermediate tests	2 of 4 obligatory but not necessarily passed over 50%
2. Final test	<p>Final written test contains (or may contain) the material not covered by successfully passed intermediate tests. Students have right to pass the material of even a successfully passed intermediate test in order to improve final results. The final result is determined as the mean percentage of intermediate tests and/or corresponding parts of final test and is graded as follows:</p> <p>„A“ - 91 – 100%  „B“ - 81 – 90 %  „C“ - 71 – 80 %  „D“ - 61 – 70 %  „E“ - 51 – 60 %  „F“ - less than 50%</p>

IV. TIMETABLE AND LIST OF TOPICS		
TOPICS AND MATERIALS	Week	Class activities
1. Loads applied to aircraft structures, design philosophies and materials	1	2h
2. Fuselage construction	2	2h
3. Mainplane construction	3	2h
4. Stabilising surfaces	4	2h
5. Test No.1	4	2h
6. Landing gear design	5	2h
7. Aircraft wheels and tyres	6	2h
8. Aircraft brakes	7	2h
9. Test No 2	7	2h
10. Flight controls	8	2h
11. Ice and rain protection	9	2h
12. Emergency equipment	10	2h
13. Fire detection and protection	11	2h
14. Test No 3	11	2h
15. Piston engines in general	12	2h
16. Piston engine charging principles	13	2h
17. Gas turbine engines in general	14	2h
18. Types of gas turbine aircraft engines	15	2h
19. Final consultancy	16	2h
20. Test No 4	16	2h
21. Examination tests		2-4h

V. LEARNING MATERIALS
<u>Compulsory materials::</u> 1) Personal class notes, ATPL ground training series AGK 1, AGK3 , Oxford AA.
<u>Additional materials recommended:</u> 1) ATPL AGK Nordian, Airframe & Systems, Powerplant.