

COURSE SYLLABUS

I. GENERAL DATA ON SUBJECT COURSE	
CODE AND NAME OF SUBJECT	SD.079 Aircraft Construction Õhusõiduki ehitus
ACADEMIC YEAR, TERM, FORM OF STUDIES	2020/2021 both terms <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	This is a full online course with the course materials presented in MOODLE together with self-assessment tests for every part of the course
LANGUAGE OF INSTRUCTION	English
ADDITIONAL INFORMATION (prerequisite subject courses, restrictions on participating in the course, etc)	No prerequisite courses necessary
LECTURER	Jaan Susi, PhD

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

III. GRADING SYSTEM AND CRITERIA	
PREREQUISITES TO BE ALLOWED TO TAKE EXAMINATION/PRELIMINARY EXAMINATION	Four intermediate tests are to be passed during the studies. All of the students, having passed successfully any of those tests, will have the right to use the result of that particular test at the final examination. If any test failed or not taken, the material of that particular test will be included into the final examination test. No intermediate tests can be retaken.
FORMATION OF EXAMINATION MARK/OF PRELIMINARY EXAM	The final result will be determined as a mean value of all intermediate and /or examination tests. The negative result of any intermediate test does not affect the right to pass the final examination test.

OPPORTUNITIES FOR SETTLING ARREARS	Students have right to take the examination tests also in the case of the corresponding intermediate tests successfully passed. The result of the final examination test will be over-ruling.
GRADING SYSTEM	RESPECTIVE MARKING CRITERIA „F“ Any of the intermediate tests or examination tests not taken or passed below 50%. "E" The the result of every part over 50% with the mean value of the parts between 51% - 60%. "D" The mean value of all the parts between 61% - 70%. Passable lower result of two parts not below 55%. "C" The mean value of all the parts between 71% -80 %. Passable lower result of two parts not below 65%. "B" The mean value of all the parts between 81% - 90%. Passable lower result of two parts not below 75%. "A" The mean value of all the parts between 91% - 100%. Passable lower result for two parts not below 85%.

IV. TIMETABLE AND LIST OF TOPICS
TOPICS AND MATERIALS Week 01 Loads applied to aircraft structures, design philosophies and materials. Week 02 Fuselage construction. Week 03 Week Mainplane construction. Week 04 Stabilizing surfaces. Test No. 1. Week 05 Landing gear design. Week 06 Aircraft wheels and tyres. Week 07 Aircraft brakes. Test No. 2. Week 08 Flight controls. Week 09 Ice and rain protection. Week 10 Emergency equipment. Week 11 Fire detection and protection. Test No. 3. Week 12 Piston engines in general Week 13 Piston engine charging principles. Week 14 Gas turbine engines in general. Week 15 Types of gas turbine engines. Week 16 Test No. 4.

V. LEARNING MATERIALS
Course materials presented in MOODLE, four self-assessment tests. Recommended: ATPL ground training series AGK 1, AGK 3, Oxford AA, 2011.