

SYLLABUS

I. GENERAL DATA ON SUBJECT COURSE	
CODE AND NAME OF SUBJECT (in Estonian and English)	CNS.055 Aviation Communication <i>Lennundusside</i>
ACADEMIC YEAR, TERM	2019/2020 spring term
CURRICULUM, SPECIALITY AND MODULE WHERE THE SUBJECT BELONGS TO	Curriculum: Aviation Communication and Navigation Systems Module: Communication and Navigation Systems Speciality
VOLUME OF SUBJECT (ECTS)	3.0 ECTS
FORM OF CONTROL	Differentiated assessment
WORKLOAD AND FORMAT OF STUDIE	Contact hours – 14 hrs, individual work – 64 hrs
LANGUAGE OF INSTRUCTION	English
ADDITIONAL INFORMATION (PREREQUISITE SUBJECT COURSES, RESTRICTIONS)	Course materials in Moodle “CNS.055 Aviati Communication”
LECTURER	Nele Tootsi, MSc

II. GOAL OF SUBJECT, LEARNING OUTCOMES AND SHORT DESCRIPTION OF THE COURSE	
GOAL OF SUBJECT COURSE	Give an overview of aviation communication technologies and equipment. To get familiar with regulations regarding the communication domain of CNS/ATM.
LEARNING OUTCOMES	After the completion of the course the student can: <ol style="list-style-type: none"> 1. describe structure of the communication domain and the relations between the sub-domains; 2. explain the purpose, principles and role of communication systems in air traffic services (ATS); 3. name and describe physical networks, communication protocols and applications used in aviation communication; 4. list and describe future developments and techniques which may have an impact on ATS communications; 5. state the regulations regarding the communication domain.
SUBJECT COURSE DESCRIPTION	Structure of the communication domain. Air traffic services (ATS) requirements for safe communications. Physical networks, communication protocols and applications used in aviation communication. Voice communication systems, recording systems. ICAO and local legal requirements regarding aviation communication and frequency allocation.

	The course combines individual work in an e-learning environment Moodle and lectures.
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III. GRADING SYSTEMS AND CRITERIA

PREREQUISITES TO BE ALLOWED TO TAKE EXAMINATION/PRELIMINARY EXAMINATION	Weekly individual assignments have to be submitted on time, work submitted after the deadline will be ignored. A student shall have at least 15 points out of 40 before the examination.
FORMATION OF EXAMINATION MARK/OF PRELIMINARY EXAM	The examination will cover 60% and individual tasks 40% of the total. A student has to earn at least 30 points out of 60 points at the examination to pass the examination.
OPPORTUNITIES FOR SETTLING ARREARS/INSUFFICIENCIES IN ACADEMIC PROGRESS	The examination can be re-taken once in case the first attempt results are negative.
	RESPECTIVE MARKING CRITERIA
GRADING SYSTEM	The percentage for final evaluation: 91-100% grade A 81-90% grade B 71-80% grade C 61-70% grade D 51-60% grade E

IV. SCHEDULE AND LIST OF TOPICS

WEEK OF YEAR	WORK FORMAT	TOPICS	LECTURER
Week 6	Individual work in Moodle	Take time to acquaint yourself with the syllabus and the grading system. Describe your expectations for the course.	N. Tootsi
Week 7	Lecture, 2h	Grading system and criteria. Get reacquainted with the basics of communication. Introduction to aviation communication. Definitions regarding aviation communication.	N. Tootsi
Week 8	Individual work in Moodle	ATS requirements for safe communications. Reliability and availability. Recording equipment.	N. Tootsi
Week 9	Individual work in Moodle	Radiofrequency spectrum. ICAO Annex 10, Volume 5 Aeronautical Radio Frequency Spectrum Utilization. Radio wave propagation. Line of sight propagation calculations.	N. Tootsi
Week 10	Lecture, 2h	Aeronautical mobile service. Air-ground voice communications. Voice communication systems.	N. Tootsi
Week 11	Individual work in Moodle	Aeronautical mobile service. Air-ground data communications.	N. Tootsi
Week 12	Individual work in Moodle	Controller – pilot data link communications. Datalink services implementing rule.	N. Tootsi
Week 13	Lecture, 2h	Aeronautical fixed service. Ground-ground voice communications.	N. Tootsi

Week 14	Individual work in Moodle	Voice over Internet Protocol technology in ATM	N. Tootsi
Week 15	Lecture, 2h	Aeronautical fixed service. Ground-ground data communications.	N. Tootsi
Week 16	Individual work in Moodle	NewPENS	N. Tootsi
Week 17	Individual work in Moodle	System-Wide Information Management	N. Tootsi
Week 18	Seminar, 4h	Preparation for the examination.	N. Tootsi
Week 20	Examination, 2h		

V. LEARNING MATERIALS

Compulsory materials:

Lecture notes and e-learning materials in Moodle at [CNS.055 Aviation Communication](#).

ICAO Annex 10

[Estonian Aeronautical Information Publication \(eAIP\)](#)

Additional materials recommended:

Dale Stacey “**Aeronautical Radio Communication Systems and Networks**”

Mike Tooley and David Wyatt “**Aircraft Communications and Navigation Systems**”