MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

NATIONAL AVIATION UNIVERSITY

Faculty of Air Navigation, Electronics and Telecommunications
Aviation English Department

AGREED
Dean of Faculty of Air Navigation,
Electronics and Telecommunications

_____ / Roman ODARCHENKO
"___" ____ 2023

APPROVED
Vice-Rector for Academic

_____ Anatolii POLUKHIN
« 18 » 12 2023

Quality Management System
COURSE TRAINING PROGRAM

on
«Professional Foreign Language»

Field of study: 17 «Electronics, automation and electronic communications»
Speciality: 174 «Automation and computer-integrated technologies and robotics»
Educational and Professional Program: «Information technologies and engineering of aviation computer systems»

Training Form	Seme-ster	Total (hours/ credits ECTS)	Lectures	Practi-cals	Lab. clas.	Self-study	HW/ CGP	TP/CP	Semester Grade
Full-time	1-2	135/ 4.5	-	68	-	67	–	-	1-credit, 2 exam

Indexes: CB-2-174-3/23-1.3;

QMS NAU CTP 22.01.04–01–2023

The Course Training Program on "Professional Foreign Language" is developed on the basis of the Educational and Professional Program "Information technologies and engineering of aviation computer systems", Bachelor Curriculums and Extended Bachelor Curriculums CB-2-174-3/23; ECB-2-174-3-23 for training higher education applicants of Speciality 174 "Automation, computer-integrated technologies and robotics", and corresponding normative documents.

Developed by:
Associated professor of Aviation English Department, PhD

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Discussed and approved by the Aviation English Department, Minutes № 8 of 04 September 2023.

Head of the Aviation English Department _____ Nataliia PAZIURA

Discussed and approved by the Graduate Department for Speciality 174 "Automation, computer-integrated technologies and robotics", Educational and Professional "Information technologies and engineering of aviation computer systems" – Department of Aviation Computer-Integrated Complexes, Minutes № 25 of 04.09. 2023.

Guarantor of the Educational and Professional program "Information technology and engineering of aviation computer systems"

_____ Oleksandr ABLESIMOV

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"18" 12 2023

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Contents:

INTRODUCTION

Course Training Program on «Professional Foreign Language» is developed based on the "Methodical guidance for the subject course training program", approved by the order № 249/од, of 29.04.2021 and corresponding normative documents.

1. EXPLANATORY NOTES

1.1. Place, objectives, tasks of the subject

The subject "Professional Foreign Language" is the theoretical and practical basis of the set of knowledge and skills that form the profile of a specialist in the fields of Electronics, automation and electronic communications.

The place of the academic subject "Professional Foreign Language" is determined by the factor that it is a set of theoretical and practical knowledge and skills, forming the competence of a specialist in the fields of automation and computer-integrated technologies.

The aim of the subject is the acquisition of the foreign language communication skills necessary for the following activities: conducting negotiations, presenting logically structured and convincing information, working with English texts professionally oriented, conducting communication in a specific sphere, dealing with possible problematic situations, learning about innovations in electronics, automation and instrumentation.

The main tasks of the subject are to train students for effective communication in their professional and academic surroundings. Thus, the course training program is aimed at the formation of communicative competence for appropriate conduct in situations of academic and professional activity in future technical specialists.

1.2. Learning outcomes the subject makes it possible to achieve

As a result of studying this discipline, the student must acquire the following learning outcomes (in combination with other educational components):
- be able to take into account social, environmental, ethical, economic aspects, the requirements of labor protection, industrial sanitation and fire safety in the formation of technical solutions;
- be able to use in production and social activities the fundamental concepts and categories of state formation to substantiate their own worldviews and political beliefs, taking into account the processes of socio-political history of Ukraine, legal principles and ethical norms.

1.3. Competences the subject makes it possible to acquire

As a result of studying this discipline, the student must acquire the following competencies (in combination with other educational components):
- ability to communicate in the state language both orally and in writing;
- ability to communicate in a foreign language;
- safe activities;
- the desire to preserve the environment;
- the ability to work in a team;
- the ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and the development of society, technology and technology, use different types and forms of physical activity active recreation and a healthy lifestyle;
- the ability to design automation systems taking into account the requirements of relevant regulations and international standards;
- the ability to take into account social, environmental, ethical, economic aspects, requirements of labour protection, industrial sanitation and fire safety when forming technical solutions;
- the ability to organize work following the requirements of life safety and labour protection;

1.4. Interdisciplinary Connections

The subject is based on the following subjects, as: "Business Ukrainian Language", "Physics", "Computer technologies and Programming", "Electronic Engineering and Electromechanics", and is a basis for studying the following subjects:" Electronics and Circuit Technique", "Microprocessor technology" and many others.

2. COURSE TRAINING PROGRAM ON THE SUBJECT

2.1. The subject content

Training material is structured according to the module principle and consists of **two educational modules:**

Module № 1 «Electric current and its properties. Application of electricity and electronics on the board of an aircraft»,
Module № 2 « Computers and the Internet. Computer hardware and software»,

that are logically complete, relatively independent, holistic part of the subject, learning of which provides module test and analysis of its performance.

2.2. Modular structuring and integrated requirements for each module

Module №1 «Electric current and its properties. Application of electricity and electronics on the board of an aircraft»
Integrated requirements to the module №1:

(know the terminology of the specialty, be able to use basic grammatical constructions in speech and in writing, have the ability to communicate in a foreign language on the topics of the module)

Topic 1. History of aviation.
History of aviation. Types of aircraft. Parts of the plane. Helicopter parts. Prominent figures in aviation and astronautics.

Topic 2. Electric current. Units of measurement of electric current.
Properties of electric current. Conductive materials and insulating materials. The main characteristics of electric current. Types of electrical circuits. Circuits of series, parallel and series-parallel connection. Electrical circuit components.

Topic 3. Application of electricity and electronics onboard the aircraft.
Natural sources of electricity. Measuring and household appliances. Outstanding scientists in the field of electricity and magnetism. The latest advances in electricity and magnetism. Application of electricity and electronics onboard the aircraft. Engineer's workplace.

Topic 4. Computers, their types and application.
The beginning of the computer age. John von Newman is the father of modern computers. Classification of digital computers. Types of computer networks.

Module № 2. "Computers and the Internet. Computer hardware and software"
Integrated requirements to the module №2

(know the terminology of the specialty, be able to use basic grammatical constructions in speech and in writing, have the ability to communicate in a foreign language on the topics of the module)

Topic 1 "**Computers and the Internet".**
Internet, history of creation. Personal computers. Web page. On-board computer systems. Computers in space exploration. Prominent figures in the field of computer science.

Topic 2 "Computer hardware and software"
Hardware tools. CPU. Input devices. Output devices. Computer memory. Software. Operating System.

Topic 3 "Computer viruses and malware".
Computer viruses and malware. Antivirus programs. Programming languages. Cloud technologies, their advantages and disadvantages.

Topic 4 "The latest advances in the industry and profession related to software development".
The latest advances in information technology. Professions related to the creation of software in the field of automation and instrumentation.

2.3. Training schedule of the subject

№	Theme (thematic section)	Total, hour		
		Mode of study: Full-time education		
		Total	practical	Self-study
1	2	**3**	4	5
Module №1 Electric current and its properties. Application of electricity and electronics on the board of an aircraft				
1.1	History of aviation. Types of aircraft.	**1 semester**		
		4	2	2
1.2	Parts of the plane. Helicopter parts.	4	2	2
1.3	Prominent figures in aviation and astronautics.	4	2	2
1.4	Properties of electric current	4	2	2
1.5	Conductive materials and insulating materials.	4	2	2
1.6	The main characteristics of electric current.	4	2	2
1.7	Types of electrical circuits.	4	2	2
1.8	Circuits of series, parallel and series-parallel connection.	4	2	2
1.9	Electrical circuit components.	4	2	2
1.10	Natural sources of electricity.	3	2	1
1.11	Measuring and household appliances.	3	2	1
1.12	Outstanding scientists in the field of electricity and magnetism.	3	2	1
1.13	The latest advances in electricity and magnetism.	3	2	1
1.14	Application of electricity and electronics onboard the aircraft. Engineer's workplace.	3	2	1
1.15	The beginning of the computer age. The beginning of the computer age.	3	2	1
1.16	Classification of digital computers. Types of computer networks.	3	2	1

1.17	Module test №1	3	2	1
	Total by the module №1	**60**	**34**	**26**

Module №2 Computers and the Internet. Computer hardware and software

		2 семестр		
2.1	Internet, history of creation.	5	2	3
2.2	Personal computers. Web page.	5	2	3
2.3	On-board computer systems.	5	2	3
2.4	Computers in space exploration.	5	2	3
2.5	Prominent figures in the field of computer science.	5	2	3
2.6	Computer hardware and software	5	2	3
2.7	Input devices. Output devices.	5	2	3
2.8	Computer memory.	4	2	2
2.9	Module test №2	4	2	2
2.10	Operating System. CPU.	4	2	2
2.11	Computer viruses and malware	4	2	2
2.12	Antivirus programs.	4	2	2
2.13	Programming languages.	4	2	2
2.14	Cloud technologies, their advantages and disadvantages.	4	2	2
2.15	The latest advances in the industry and profession related to software development.	4	2	2
2.16	Professions related to the creation of software in the field of automation and instrumentation.	4	2	2
2.17	Module test №2	4	2	2
	Total by the module №2	**75**	**34**	**41**
	Total by the subject	**135**	**68**	**67**

2.4. The list of questions and content of tasks for preparation for the exam.

The list of questions and content of tasks for preparation for the exam are developed by the leading teacher of the department following the course training program, approved at the meeting of the department and distributed among students.

3. BASIC CONCEPTS OF GUIDANCE ON THE SUBJECT
3.1. Teaching methods

It is recommended to use the following teaching methods during mastering the subject:
- explanatory and illustrative method;
- method of problem presentation;
- reproductive method;

- research method.

The implementation of these methods are carried out during lectures, demonstrations, self-study, work with the educational material, analysis and solution of problems.

3.2. List of references
Basic literature

3.2.1. Virginia Evans, Jenny Dooley, Stanley Wright. Information Technology. Express Publishing. 2014 – 39p.

3.2.2. Pazyura N.V. // Professional English for radio technical engineers: Guide to practical classes. – K. : NAU, 2017.- 66 p.

3.2.3. Pershukova O.O. «Foreign Language (English)» Guide to self-study. – K.: NAU, 2021 –34 p.

3.2.4. Pershukova O.O. «Foreign Language (English)» Guide to self-study for the 1-year higher education applicants of Bachelor Educational Degree. – K.: NAU, 2021. – 34p.

Additional Literature

3.2.5. Eric H. Glendinning, John Mc Evan. Oxford English for Information Technology. Oxford University Press. 2006 – 222p.

3.2.6. Jenny Dooley, Virginia Evans. Grammarway. Express Publishing. 2012 – 192p.

3.2.7. Santiago Remacha Esteras. Infotech. English for computer users. Cambridge University Press. 2007 - 172p.

3.3. Internet Information resource

3.3.1. Educational and methodical complex of the discipline "Professional foreign language"

4. Rating System of assessing students' knowledge and skills acquired

4.1. Grading of different kinds of academic work performed by a student is done in accordance with Table. 4.1.

The credit rating is determined (in points and on a national scale) based on the results of all types of educational work during the semester.

4.2. Completed types of educational work are credited to the student, if he received a positive rating for them (Table 4.1).

4.3. The sum of rating assessments received by the student for certain types of completed educational work is the current modular rating assessment, which is recorded in the module control.

4.4. The sum of the final semester module and examination ratings, in points, is the final semester rating, which is converted into grades on the national scale and the ECTS scale (Annex 4).

- In the case of differentiated credit credit, the final semester rating is converted into a score on a national scale and a scale ECTS (Annex 4).

4.5. The final semester rating in points, on the national scale and the ECTS scale is entered in the test report, study card and student record book, for example, as follows: 92 / Excellent / A, 87 / Good / B, 79 / Good / C, 68 / Set / D, 65 / Set / E, etc.

4.6. The final rating of the subject is equal to the final semester rating. The specified final rating assessment in the subject is entered in the Diploma Supplement.

4.7. The final rating of the subject is defined as the arithmetic mean of the final semester ratings in points (in this subject - for the first and second semesters) with its subsequent transfer to grades on the national ECTS scale.

The specified final rating assessment in the subject is entered in the Diploma Supplement.

Table 4.1

Grading of different kinds of academic activities performed by a student.

Table 4.1(Exam)

Kind of Academic Work	Maximum Grade Values
	Full-time
2 semester	
Module № 2	
Reading and analysis of professionally oriented texts	10
Listening to the professionally oriented texts	10
Writing information related to the topic	10
Monologue speaking based on the topic	10
Dialogic speaking based on the topic	10
For admission to complete module test №2, a student must receive not less than	30
Module Test №2	30
Total by module №2	**80**
Semester Grade	**20**
Total by the subject	**100**

Table 4.1.1 (differentiated credit test)

Kind of Academic Work	Maximum Grade Values
	Full-time training form
1 semester	
Module № 1	
Reading and analysis of professionally oriented texts	10
Listening to the professionally oriented texts	10
Writing information related to the topic	10
Monologue speaking based on the topic	10
Dialogic speaking based on the topic	10
Preparation of a report on the topic /	20
For admission to complete module test №1, a student must receive not less than	42
Carrying out Module Test №1	30
Total by module №1	100
Differentiated credit test	**100**
Total Semester Grade	100

(Ф 03.02 – 01)

АРКУШ ПОШИРЕННЯ ДОКУМЕНТА

№ прим.	Куди передано (підрозділ)	Дата видачі	П.І.Б. отримувача	Підпис отримувача	Примітки

(Ф 03.02 – 02)

АРКУШ ОЗНАЙОМЛЕННЯ З ДОКУМЕНТОМ

№ пор.	Прізвище, ім'я, по батькові	Підпис ознайомленої особи	Дата ознайом-лення	Примітки

(Ф 03.02 – 04)

АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЇ

№ пор.	Прізвище, ім'я, по батькові	Дата ревізії	Підпис	Висновок щодо адекватності

(Ф 03.02 – 03)

АРКУШ ОБЛІКУ ЗМІН

№ зміни	№ листа (сторінки)				Підпис особи, яка внесла зміну	Дата внесення зміни	Дата введен-ня зміни
	Зміненого	Заміненого	Нового	Анульо-ваного			

(Ф 03.02 – 32)

УЗГОДЖЕННЯ ЗМІН

	Підпис	Ініціали, прізвище	Посада	Дата
Розробник				
Узгоджено				
Узгоджено				
Узгоджено				
Узгоджено				
Узгоджено				
Узгоджено				